

Incorporating Community Risk Reduction into an Older Adult Falls Program for the Meridian

Township Fire Department

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that the appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed

A handwritten signature in black ink, appearing to read 'Matthew J. Walters', written over a horizontal line.

Matthew J. Walters

Abstract

The problem was ground level falls in Meridian Township are the leading cause of significant injury in adults over 65 years of age. The feasibility of effective fall prevention programs needs to be researched, so the Meridian Township Fire Department (MTFD) can create a safer community for our citizens. The purpose of this research project was to define the role MTFD can play in preventing older adult falls and related injuries. The research method employed is the descriptive method, involving questionnaires and interviews. The following questions were answered (a) What are the demographics of fall victims in Meridian Township? (b) Where are the falls happening that cause injuries to the residents of Meridian Township? (c) What is the response data from MTFD referencing falls in Meridian Township specifically transport vs. non-transport incidents? (d) What is the best role for MTFD to perform in preventing falls for the customers they serve? The procedures used for developing a fall prevention program by the MTFD included personal interviews conducted with personnel from Meridian Township; which including Fire Chief, Meridian Senior Center Director, Private Home Nursing Supervisor, and Senior Housing Directors. This provided insight into what the priorities of the department were and identified restrictions for the program. The results showed over half of the EMS calls for service in Meridian Township involve falls. The incident reports and community data studied showed Meridian Township has a good fall prevention system in place; it just needs additional advertising and participants. The recommendations are; MTFD can reduce the number of fall related incidents by partnering with other Community Based Organizations to increase awareness of fall risks and promote community fall prevention activities. A list of activities and service providers and can reduce the fall problem in Meridian Township; MTFD can coordinate this information distribution.

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Township Fire Department

The problem is ground level falls in Meridian Township are the leading cause of significant injury in adults over 65 years of age. The feasibility of effective fall prevention programs needs to be researched, so the Meridian Township Fire Department (MTFD) can create a safer community for our citizens. The Center for Injury Prevention and Control (CDC) states; "Falls are the leading cause of fatal and nonfatal injuries among adults 65 and older, and 10,000 people in the United States turn 65 every day. Community-based organizations (CBOs) can play an important role in promoting the health and well being of the residents in their community. Many of the services provided by the community based organizations help people of all ages maintain healthy lifestyles and improve their quality of life. This includes expanding efforts to reduce falls among older adults" (National Center for Injury Prevention and Control, 2015, p.1). MTFD can play an active role as a community based organization whose responsibility it is to prevent and treat fall-related injuries.

The purpose of this research project is to define the role MTFD can play in preventing older adult falls and related injuries. This research project was completed as part of the National Fire Academy's Executive Development Program course: R0274- Executive Analysis of Community Risk Reduction (CRR). The research method employed is the descriptive method, involving questionnaires and interviews. The following questions will be answered (a) What are the demographics of fall victims in Meridian Township? (b) Where are the falls happening that cause injuries to the residents of Meridian Township? (c) What is the response data from MTFD referencing falls in Meridian Township specifically transport vs. non-transport incidents? (d) What is the best role for MTFD to perform in preventing falls for the customers they serve?

Background and Significance

Meridian Fire is a three-station combination department with 32 full-time, and seven part-time firefighters located in Central Michigan. We directly border Michigan State University and are within five miles of Michigan's Capitol of Lansing. Daily staffing varies from seven to ten firefighters for three stations. Two of the stations "jump rigs" or staff the two pieces of equipment with the same crew to provide service. If the minimum is on duty all three stations jump rigs. Our resident population is 39,600. The Township is home to Mid Michigan's largest retail area, causing the daytime population to an average of 60,000. This includes a 1,022,040 square foot mall and 20 various strip malls (Meridian Charter Township, n.d., p.1).

Infrastructure protected include the public water system for the Township and City of East Lansing, a Wolverine Petroleum pipeline, two AT&T telephone switching stations, two rail lines; one of which serves Dow Chemical to the north of us, averaging 30 to 40 crossing per day. Five Sara Title III facilities have been identified in conjunction with the Local Emergency Planning Committee. Seven skilled nursing facilities, nine senior housing complexes as well as several student housing areas serving Michigan State University. Huntsman Advanced Chemicals also has a research and manufacturing facility in the township. The largest body of water within 40 miles of Lansing is also located here (Meridian Charter Township, n.d., p.3). Meridian Township has two local community centers and one senior center. The Meridian Senior Center serves the entire township.

The research agenda will include interviews with key stakeholders and an Internet survey of MTFD employees. The key stakeholders identified are older adult adults within the community, community center directors, Meridian Township administrative staff, home nursing providers, and managers of senior housing facilities. The interviews were conducted over a two-

week period, to assure accurate and meaningful information was gleaned. The literature review involved twelve independent studies and research papers, obtained through Eastern Michigan Universities Hale Library. These studies helped guide the research and formed the interview questions. Additional research was also performed at the Learning Resource Center of the National Fire Academies Library.

The importance of fall prevention and how it relates to the MTFD is defined in the yearly report developed for the citizens and Township Board. In 2016 the MTFD responded to 4,241 calls for Emergency Medical Services (EMS). The results of those EMS contacts were 3,179 transports and 1,062 non-transports. Those numbers reflect that MTFD does not transport 25% of the EMS calls for service. MTFD provides "citizen assists" when assistance is needed, usually from a fall. The fall-related EMS transports were 15% of the overall numbers for 2016. When combined with the citizen assist numbers, the calls for fall-related incidents are 40%. Additionally, MTFD corrected a reporting issue related to the National Fire Incident Reporting System (NFIRS) of "invalid assists" so the number is probably closer to 50%. This is a number that can be lessened with a fall prevention program. When the calls for EMS take place the fire protection for that response area is decreased due to a non-emergency call, like a citizen assist, which a prevention program may decrease.

According to the Centers for Disease Control and Prevention (CDC) "falls are a major threat to the health and independence of older adults. Each year one in three older adults age 65 and older experience a fall, and people who fall once are two to three times more likely to fall again" (National Center for Injury Prevention and Control, 2015, p.2). Also, a factor in falls is the number of injuries and deaths. As reported in the fall prevention guide, "one out of ten falls causes a serious injury, such as a hip fracture or head injury, which requires hospitalization. In

addition to the physical and emotional pain, many people need to spend at least a year recovering in a long-term care facility" (National Center for Injury Prevention and Control, 2015, p.2). It is reported that 25,000 older adults will die from fall-related injuries, and that rate has been rising over the past decade (National Center for Injury Prevention and Control, 2015, p.3). Research has shown that falls can be prevented and a good fall prevention plan should be addressed each year.

During the course work for Community Risk Reduction (CRR) students studied how to identify local risks and mitigate them through a comprehensive plan. This research project directly relates to the subject matter studied in the CRR class. Specifically, how to apply the Haddon Matrix for injury prevention to an event. Also, defining the eight levels of the strategic planning progress that will occur during the development of a program. The research project will follow Haddon's Matrix of pre-event, event and post-event to ensure a complete program is provided.

The eight levels of the strategic planning progress according to Kotter are:

1. Create a sense of urgency
2. Develop a guiding coalition
3. Develop a vision strategy
4. Communicate the vision
5. Remove barriers
6. Create short term success
7. Consolidate gains
8. Anchor to culture and hold responsible

The literature review gleaned two programs that follow the above stages, "Stepping On- from CDC and Moving For Better Balance (MBB) which is now a program the YMCA provides.

Both of these programs were studied in this research project because they are both delivered in Meridian Township. The linkage to the United States Fire Administration (USFA) goals as listed in the 2014-2018 strategic plan, and this research project are; “Goal 1: Reduce Fire and Life Safety Risk Through Preparedness, Prevention and Mitigation. The USFA programs and services contribute to significant reductions in fatalities, injuries and property loss in America. We work to reduce risk and increase resiliency through programs and training in preparedness, prevention and mitigation” (United States Fire Administration [NSFA], 2014, p.9). When this research project is completed, it will be a guide for fire administration personnel at MTFD to follow and prevent injuries in our older adult population. This will also reduce the calls for service as it relates to citizen assists and non-emergency responses. This combination of strategies will provide better service and protection to all of our citizens and customers.

Literature Review

The research into older adult falls in Michigan began in the early part of 2002 with a white paper for the Michigan Department of Community Health. The study revealed that falls are the leading cause of injury and the most common cause of hospitalization for trauma among older adults. It has been estimated that as many as 35 to 40 percent of older adult citizens will fall each year (Scarpetta, 2002, p.5). Understanding the causes and behavior's that put people at risk for injuries is the first phase toward improving injury prevention. “Drawing on the multidisciplinary experience of diverse injury prevention experts, this strategic plan was formulated to build the Michigan's capacity to continue, and in some cases begin, to reduce the number of injury and violence-related deaths and disabilities throughout the state” (Public Sector Consultants Inc., 2006, p.3). The authors also discussed that numerous groups that have studied the fall problem but no true direction is easy to detect. The development of fall prevention

programs was in its infancy during the early 2000's. This group was part of Governor Granholm's Long Term Care Task Force. The study of older adult falls has been a point of study for over seventeen years, and now Michigan Department of Community Health has clear direction on evidenced-based programs for fall prevention that work (Public Sector Consultants Inc., 2006, p.1). The next group of studies is more current and will show the connection to the work on fall prevention Michigan began in 2002.

On the National level, the CDC has thoroughly researched the subject of older adult falls. The CDC has concluded: older adult falls are a significant cause of morbidity and mortality in the United States. Falls are the leading cause of injury in adults aged 65 and older. The fall and resulting injury results in \$35 billion in direct medical costs (Houry, Florence, Baldwin, Stevens, & McClure, 2015, p.74). This study also predicted that: "the number of older adult fatal falls is projected to reach 100,000 per year by 2030 with an associated cost of \$100 billion. By integrating screening for falls risk into clinical practice, reviewing and modifying medications, and recommending vitamin D supplementation, physicians can reduce future falls by nearly 25%" (Houry et al., 2015, p.74). The recommendations listed above are the guidelines in which most fall programs operate. During the review of fall literature a common theme developed; no single remedy will work to prevent older adult falls.

The falls program must involve a team approach and have evidence-based components to succeed. As this researcher learned early on; "the public has been largely unaware of the magnitude of the problem of falls in community-dwelling, active older adults, but it is recognized by researchers and the public health community as a growing epidemic" (Houry et al., 2015, p.75). As this research has progressed most of the interviewed community stakeholders were not aware of how large the problem of older adults falls has become. As listed

earlier one in three older adults will experience a fall and people who fell are two to three times more likely to fall again (National Center for Injury Prevention and Control, 2015, p.2). After developing awareness to the problem, the next concern is the medical costs of falls. The authors predicted, "Over the 20-year period from 2012 to 2030, the lifetime medical cost of treating falls is projected to increase from \$35 billion to over \$101 billion. These significant increases in costs cannot be absorbed by our current health care system" (Houry et al., 2015, p.75). The authors concluded that evidence-based programs are needed urgently, but first public recognition is necessary to create the sense of urgency.

The next area of study involved why falls occur. The doctors described that falls are highly preventable. Fall risk factors involve either a personal problem or event versus an environmental interaction. The personal risk factors involve; muscle weakness or balance disorders, disease progression, poor vision, medication interactions or fall history. Some of the environmental risks may involve; lighting, rugs, obstacles in a pathway, stairs, and confined spaces (Houry et al., 2015, p.76). In summary of risks, they concluded; "it is uncommon for a fall to have a single cause. More often, falls result from the interaction of multiple risk factors. In fact, the risk of falling increases linearly with the number of risk factors, from 19% for those with one risk factor to 78% for those with four or more risk factors" (Houry et al., 2015, p.76).

The Gerontological Society of America published an article on "Lessons Learned from Implementing CDC's STEADI Falls Prevention Algorithm in Primary Care," they learned it took a team of stakeholders to prevent older adult falls. The study began with the thesis of "falls lead to a disproportionate burden of death and disability among older adults despite evidence-based recommendations to screen regularly for fall risk and clinical trials demonstrating the effectiveness of multifactorial interventions to reduce falls. The CDC developed STEADI

(Stopping Elderly Accidents, Deaths, and Injuries) to assist primary care teams to screen for fall risk and reduce the risk of falling in older adults" (Casey, Parker, Winkler, Lambert, & Eckstrom, 2016, p.1). The authors described what needed to happen in order to effect change. The group used the same Kotter framework we studied in the Community Risk Reduction class. The medical authors described, "We will describe key steps and decision points in the implementation of STEADI as they relate to the recommended strategies of the Kotter framework. Strategies include: creating a sense of urgency, building a guiding coalition, forming a strategic vision and initiative, enlisting volunteers, enabling success by removing barriers, generating short-term wins, sustaining change, and instituting change" (Casey et al., 2016, p.1).

This study was easy to relate back to the classroom activities involved with the CCR class because the same concepts were deployed. The group began with the statement, "multiple individual and multifactorial interventions have been shown to reduce fall risk." Furthermore, they continued with "effective interventions include fall prevention classes, Tai Chi, environmental modification, vitamin D supplementation, medication optimization, and targeted clinical assessments and referrals" (Casey et al., 2016, p.2). The article described the CDC's STEADI program and how to incorporate the package into the medical profession's practice. The assessments developed included "gait, strength, and balance testing; vision exam; orthostatic blood pressure measurement; medication review; physical exam; cognitive screen and falls history." "Interventions include community Tai Chi or other evidence-based falls prevention classes to improve strength and balance, physical therapy for gait training or mobility-aid evaluation, occupational therapy for home safety evaluation, vision correction, management of blood pressure, vitamin D supplementation, and medication optimization to eliminate or reduce medications associated with falls" (Casey et al., 2016, p.3).

The results of the study were as follows; the project began by highlighting the number of people affected by falls and a clear and present need for a prevention program. An additional factor in the urgency phase was to show benefits to employees and regional health plans. The next phase involved building the guiding coalition, which had members from all the parts of each medical practice. Which included doctors, educators, nurses, IT support and other state health care professionals. The entire stakeholder package was present. The third level of the study was to develop a strategic vision. The researchers wanted to “make fall prevention a routine part of clinical care” (Casey et al., 2016, p.4). “Diverse partners found common ground because STEADI encouraged a multispectral approach to reducing falls; each partner was able to use its own existing strengths and resources to meaningfully contribute to the project’s vision” (Casey et al., 2016, p.4).

This also involved creating an army of volunteers. The project enlisted 16 of the 24 practices, with the support of all levels of employees. The next deed was to remove barriers to enable action. Additional input from previous programs helped to identify barriers early and eliminate them (Casey et al., 2016, p.4). To generate short-term wins the medical crews pilot-tested the program on 56 patients. Each patient was screened and placed into a risk profile. The high fall risk patients were started on the STEADI fall prevention program. This resulted in a reduction of falls of approximately 45 percent verses the CDC high-risk control group (Casey et al., 2016, p.7). The program continued to make small gains throughout the study period. The last part of Kotter's Framework involves; sustaining change and instituting change. "Keys to the project's success were early buy-in from clinic leadership, faculty, and staff; careful attention to building a clinic workflow that was feasible and responsive to provider and staff needs; and development of Epic measurement tools that allowed staff and providers to confidently and

efficiently complete all components of the STEADI algorithm” (Casey et al., 2016, p.9). In conclusion, this study was easy to follow, and it illustrates the reinforcement of our learning activities in class and how communities do not have to start from the beginning to help reduce the older adult fall problem in their community.

After a community has an evidence-based program for fall prevention what are the factors involved with participation? This researcher found a journal article in which the factors were studied. This article was of great importance while gathering my research materials and asking interview questions. “Educating older persons regarding the benefits of participation in a fall prevention program is of primary importance; education alone, however, is not the primary factor for adherence to fall preventive care” (Frieson, 2016, p.1). There are benefits to active participation. “Factors for enrollment include the desire to improve overall health and functional status, maintain independence, promote safety, improve mood and mental health, receive personal advice from a physician, and obtain social support from family and friends” (Frieson, 2016, p.1).

Despite these benefits, there remain barriers to seeking fall prevention care, such as denial of risk for falls or the need for services, lack of interest in group activities, lack of time commitment, perceived a personal threat from loss of independence, transportation, and costs (Frieson, 2016, p.1). European researchers found the perceived benefits of fall prevention are; that older persons were motivated to adhere to training by perceptions of improved health benefits (e.g., muscle strength, balance, and mobility) and independence. Psychosocial benefits included social involvement and meeting new people, enhancing confidence and mood, and promoting interest and enjoyment. The reduction of fall risk was not a sole contributing factor in adherence to fall services (Yardley, Bishop, Hauer, Kempen, & Piot-Ziegler, 2006, p.654).

“Barriers to successful programs include: denial of risk for falls or the need for additional fall prevention services, lack of interest in group activities, time commitment, and non-attendance due to transportation and cost along with a threat to independence” (Yardley et al., 2006, p.657). The program successes were listed as; a desire for group exercise, health education from a wide range of health care professionals and yearly vision screening.

The largest barrier to program participation is transportation. Additionally noted in the study was underlying behavior issues. The group learned that “fall prevention advice was regarded as common sense to be given for older or more disabled persons, and was considered potentially worrisome. Their findings revealed that the unawareness of fall risks was not the reason older persons rejected fall prevention advice, but the perception of potential threat to identity and independence” (Frieson, 2016, p.2). The summary of knowledge gained from the review of the older studies is that healthcare professionals must understand the motivation and barriers to fall prevention. Frieson found “An initial needs assessment must be performed to identify high-risk populations and provide education on how fall prevention services can improve each individual's specific healthcare needs and improve the quality of life (Frieson, 2016, p.2). Transportation modes must be evaluated to increase accessibility to services and, alternatively, group exercise programs can be held at designated facilities or the older adult's home-base site (Frieson, 2016, p.2). Money can also be a barrier if the target population has low or fixed income and insurance provides no coverage.

An additional journal article really drove home the concept of do not interfere with independent living. A theme that emerges from the fall-prevention literature is that older adults often view falls as a threat to their independence. “Underscoring the value older adults place on their independence, a study found that 80% of participants would rather die than experience a hip

fracture that caused them to move to a nursing home and need assistance with activities of daily living” (Blalock, Gidner, Jones, Bowling, & Castell, 2016, p.1313). Given these findings, you would think that older adults would be motivated to do everything possible to reduce their risk of falling. The prevention behaviors listed and studied by Blalock’s research group were: exercising, an annual medication review, the installation and use of bathroom grab bars and using safe footwear (Blalock et al., 2016, p.1314). These were viewed as non-invasive and could be self-adopted with little effort. Also included in the hypothesis was that older adults might self-restrict movement due to the fear of falling. The study revealed that older adults that adopt 2 or more of the fall prevention behaviors were twice as likely to prevent a fall. “These findings suggest that awareness of recommended risk-prevention behaviors plays a critical role in risk perception” (Blalock et al., 2016, p.1316).

Also involved with the adoption of fall prevention activities is the lack of awareness. "Unless individuals are aware that adopting a particular behavior may reduce their risk of falling, one would not expect the adoption of the behavior to reduce perceived risk. Lack of awareness can result in a false sense of security whereby individuals who have not adopted a recommended behavior do not realize that failure to do so places them at greater risk" (Blalock et al., 2016, p.1316). Additionally, the group learned that instant results are not possible for certain activities; exercise takes months to achieve and prove helpful. Also with increased movement, the risk for falls is elevated without fall precautions. The main finding of this study was “awareness of the behaviors recommended appears necessary for adoption of these behaviors to reduce perceived risk; fall prevention campaigns should emphasize behaviors of which awareness is low” (Blalock et al., 2016, p.1317). In sum, the medication review and exercise development are not actively

associated with fall prevention in most communities without an evidence-based fall prevention program.

After reviewing the literature and studying the fall prevention information, this researcher developed the necessary background to propose questions to the key stakeholders involved with a fall prevention program in Meridian Township. The Michigan Fall Prevention Partnership showed what happened in the past from 2000 to 2006 locally. That partnership revealed the high occurrences of older adult falls and the costs involved to treat fall victims. The group was used to decimate information and to begin the study of fall prevention programs in Michigan.

The progress into the national fall problem was discovered through the CDC and its database with national numbers. Research showed an alarming level of falls; one in three older adults will fall. Also included in the CDC data was the amount of money spent to care for fall victims; 35 billion dollars. Additionally, the CDC showed the future numbers increasing exponentially, to 100,000 fatal falls and a cost of 100 billion dollars to care for fall victims in 2030 (Houry et al., 2015, p.74). These projections are exactly what a fall prevention program can affect. If the fall prevention behaviors listed by Blalock and Casey can be implemented the CDC numbers will shrink. When the barriers are removed and older American's embrace fall prevention and associated measures, they can protect their independence and assure they remain in their home. The fall prevention programs are active in this community and need a champion to inform the citizens affected on what kinds of help are available. The Meridian Township Fire Department can be that champion.

Procedures

The descriptive method of research methodology was used to provide insight into problems and concerns involved with an older adult fall prevention program at Meridian

Township Fire Department. Descriptive research was used because scholars consider it the best way to poll a group.

Jacobb Smith (2012) was quoted as: Descriptive research takes up the bulk of online surveying and is considered conclusive in nature due to its quantitative nature. Unlike exploratory research, descriptive research is preplanned and structured in design, so the information collected can be statistically inferred on a population. The main idea behind using this type of research is to define better an opinion, attitude, or behavior held by a group of people on a given subject. Consider your everyday multiple-choice question. Since there are predefined categories a respondent must choose from, it is considered descriptive research. These questions will not give the unique insights on the issues like exploratory research would. Instead, grouping the responses into predetermined choices will provide statistically inferable data. This allows you to measure the significance of your results on the overall population you are studying, as well as the changes of your respondent's opinions, attitudes, and behaviors over time (p.1).

The procedures used for developing a fall prevention program by the Meridian Township Fire Department included personal interviews conducted with personnel from the MTFD; including the Fire Chief, Meridian Senior Center Director, Private Home Nursing Supervisors, Senior Housing Directors and other selected individuals with knowledge or experience in this area. This provided insight into what the priorities of the department were and identified restrictions and boundaries for the program. They provided input, feedback, and recommendations for the fall prevention program and procedures. The Fire Chief would ultimately approve the program, so his input was vital.

Literature was collected, assessed, and examined from a variety of periodicals. Articles specific to older adult programs, marketing, and public relations were searched. These yielded numerous articles from geriatric magazines and periodicals. Several national publications on fall prevention were studied in-depth to ascertain what research was performed over the last 20 years on fall prevention. These were useful for recommendations and justifications for developing and implementing a fall prevention program. Personal interviews were set-up and conducted with local government personnel and private services for senior care. Representatives from the Meridian Township Departments of fire and senior care were questioned to identify and establish what specific needs were necessary to start a fall prevention program coordinated by MTFD.

The interviews and surveys were developed to answer the following questions: (a) What are the demographics of fall victims in Meridian Township? (b) Where are the falls happening that cause injuries to the residents of Meridian Township? (c) What is the response data from MTFD referencing falls in Meridian Township specifically transport vs. non-transport incidents? (d) What is the best role for MTFD to perform in preventing falls for the customers they serve?

The process began with interviews (Appendix A) The Meridian Township Fire Chief, Meridian Senior Center Director, Home Nursing and Senior Housing Directors. The information gleaned from the interviews would be the main material on how to make this program a success. The author believed that starting with the Directors would provide the proper guidance and direction to allow the survey to have merit. The surveys (Appendix C) were sent to MTFD employees via email. The author also wanted to explore fire department personnel interacting with older adults in a non-emergency capacity. The research questions were also incorporated into the survey design to provide a professional sample beyond the interviewed personnel. To

check reliability and validity of the survey, the answers were checked against one another. The procedure used was the split-half reliability test.

According to Saul McLeod (2013) the split-half method assesses the internal consistency of a test, such as psychometric tests and questionnaires. There, it measures the extent to which all parts of the test contribute equally to what is being measured. Comparing the results of one-half of a test with the results from the other half does this. A test can be split in half in several ways, e.g. first half and second half, or by odd and even numbers. If the two halves of the test provide similar results, this would suggest that the test has internal reliability (p.1).

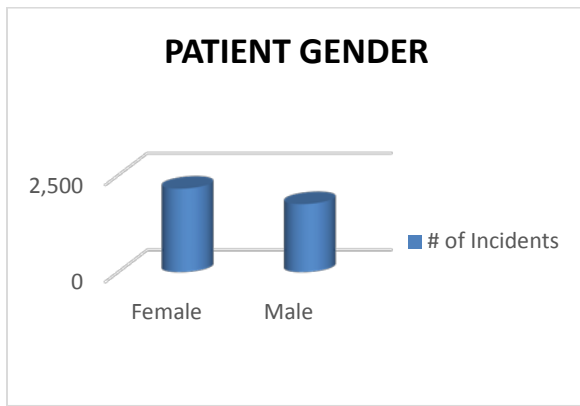
It is important to point out the limitations of this program. This program is designed and structured for Meridian Township; other municipalities were not considered in its design. The local departments involved within the Meridian Township Government are unique to this community. The Meridian Senior Center is very active, and Meridian Township has a large amount of older adult housing. Additionally, the fall prevention programs are well established and serve most of the active community. As mentioned in the literature review, other cities and countries have produced programs similar in function to this program; but each program is tailored to the needs of the community. Research must be conducted to explore possibilities and limitations on the local level.

Results

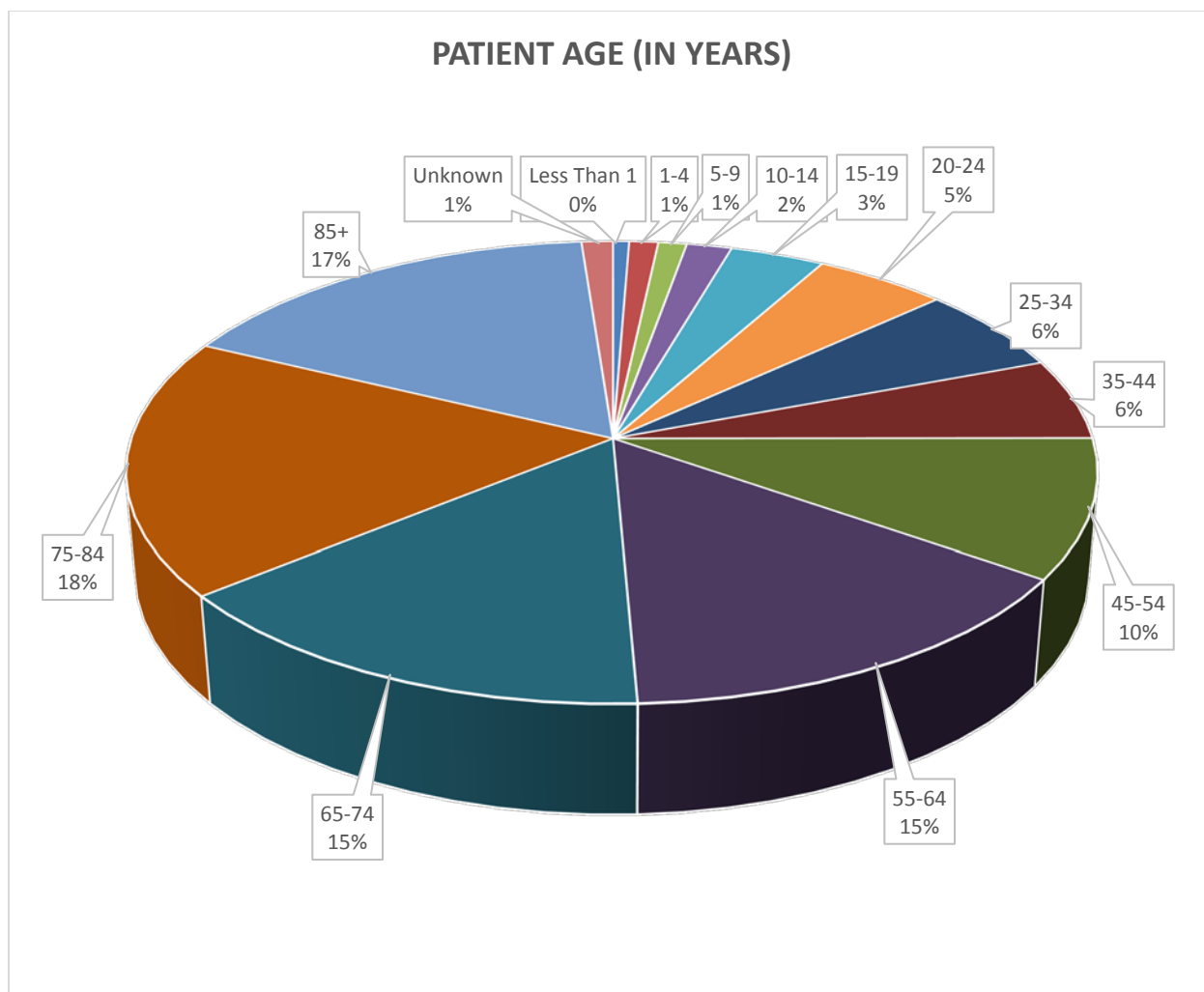
The results of the research and reviewed literature, coupled with the interviews shows an increasing rate of falls and fall related incidents in Meridian Township. As our community ages and the senior housing complexes grow, MTFD will have an increased occurrence rate of fall related incidents, if no countermeasures are launched. The problem stated in the opening was;

“ground level falls in Meridian Township are the leading cause of significant injury in adults over 65 years of age”. This problem statement has been verified through the following research.

The first research question was; what are the demographics of fall victims in Meridian Township? The charts below express the male and female distribution for ambulance transports in Meridian Township. The Second selection shows age.



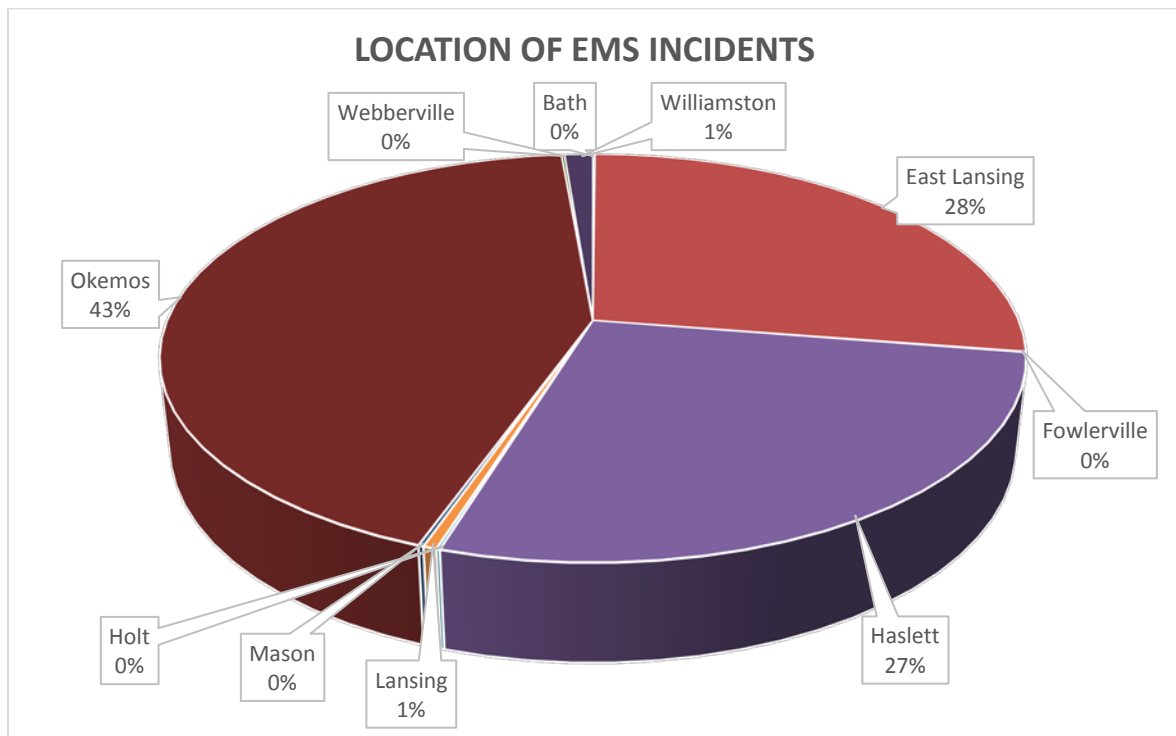
Patient Gender	# of Incidents	% of Incidents
Female	2,291	54.02%
Male	1,902	44.84%
Not Indicated on Report	48	1.39%



Patient Age	# of Incidents	% of Incidents
Less Than 1	26	0.61%
1-4	47	1.11%
5-9	46	1.08%
10-14	73	1.72%
15-19	153	3.61%
20-24	215	5.07%
25-34	257	6.06%
35-44	242	5.71%
45-54	412	9.71%
55-64	620	14.62%
65-74	628	14.81%
75-84	766	18.06%
85+	705	16.62%
Unknown	51	1.20%

Average Patient Age: 60

The second research question was; where are the falls happening that cause injuries to the residents of Meridian Township? Not shown is the home and urgent care transport breakdowns. The home responses are over 60% of MTFD call locations and second are medical facilities with 38%.

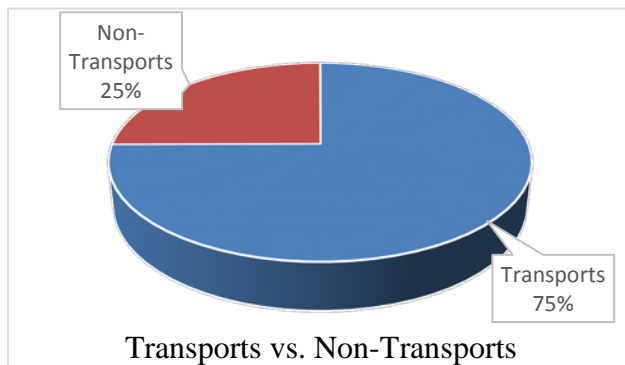


Location	# of Incidents	% of Incidents
Bath	4	0.09%
East Lansing	1,155	27.23%
Fowlerville	3	0.07%
Haslett	1,150	27.59%
Holt	5	0.12%
Lansing	18	0.42%
Mason	7	0.17%
Okemos	1,820	42.91%
Webberville	6	0.14%
Williamston	53	1.25%

The research revealed the answer to the third research question; what is the response data from MTFD referencing falls in Meridian Township specifically transport vs. non-transport incidents? Over the last ten years of providing services to the citizens of Meridian Township, the

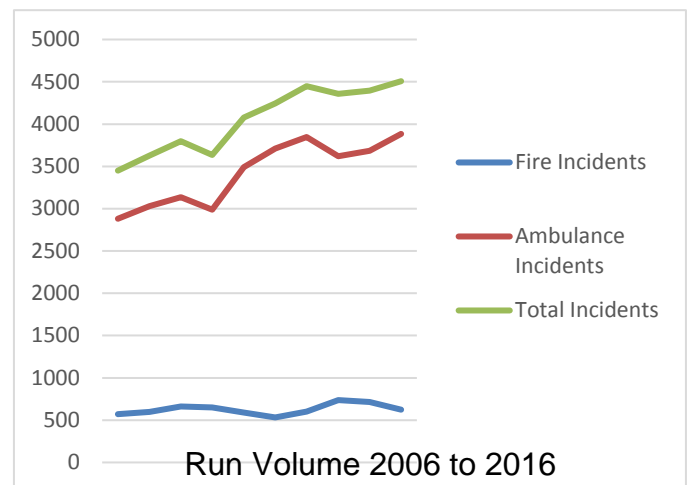
ambulance call volume rises at a steady rate of nearly 200 per year. The calls for fire related incidents remain steady. Research revealed the calls for citizen assists or “lift assists” have increased from 1 to 2 a day, too 3 to 4 per day. The records management system has not prepared to track those calls in the past, now they are detailed differently than injury calls. In addition to the calls for service, the CDC indicated that a large amount of falls go unreported.

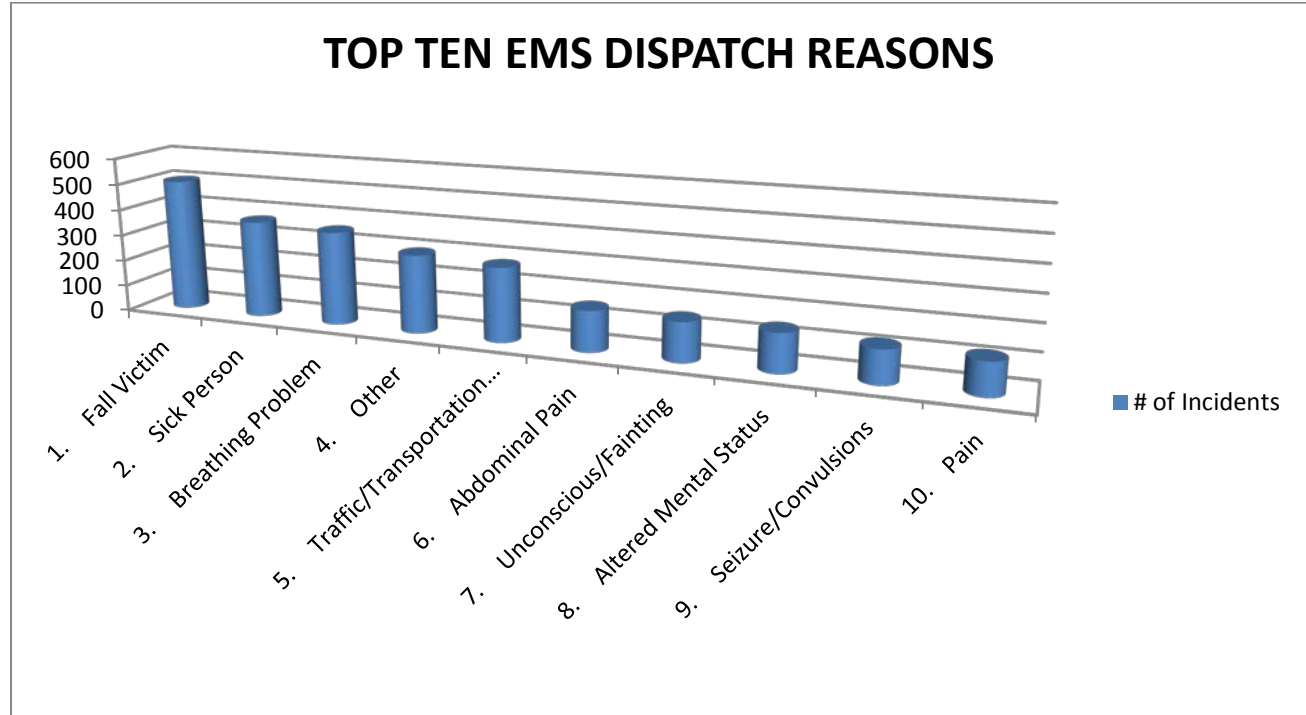
The numbers below show the amount of non-transported patients reported to the EMS system in MTFD service area. Those non-transports are often under-reported fall victims. The fall victim rate could be 50% of the call volume for MTFD; the administrative staff is tracking better more accurate data currently.



Run Volume 2006 to 2016

Year	Fire Incidents	Ambulance Incidents	Total Incidents
2006	569	2,881	3,450
2007	599	3,029	3,628
2008	662	3,137	3,799
2009	649	2,987	3,636
2010	588	3,490	4,078
2011	532	3,711	4,243
2012	600	3,847	4,447
2014	737	3,619	4,356
2015	714	3,683	4,507
2016	925	4,028	4,953





Top 10 EMS Dispatch Reasons	# of Incidents	% of Incidents
1. Fall Victim	625	14.74%
2. Sick Person	607	14.31%
3. Breathing Problem	341	8.04%
4. Chest Pain	320	7.55%
5. Traffic/Transportation Accident	262	6.18%
6. Medical Alarm	239	5.64%
7. Abdominal Pain	210	4.95%
8. Unconscious/Fainting	183	4.32%
9. Altered Mental Status	151	3.56%
10. Traumatic Injury	147	3.47%

All numbers and statics were acquired from the Meridian Charter Township Annual Report (Meridian Township Directors, 2016, p.34).

As the charts show the leading cause of EMS requests in Meridian Township are falls. This number is only the reported category in the Image-Trend reporting software that tracks falls specifically. When combined with the data from our Fire RMS reporting system the number

increases to 45%. The numbers show that falls are increasing yearly and will continue unabated until information about fall prevention is distributed and program demand is high.

The final question posed in the research project was; what is the best role for MTFD to perform in preventing falls for the customers they serve? This question is where the research project was focused and extensively explored. This question was broken into two parts; internal stakeholders and external stakeholders. The internal stakeholders were the MTFD staff and the external stakeholders were the managers and program providers in Meridian Township. The external group also included the small older adult population polled in the park. The research began with an internal MTFD Internet survey (Appendix B) to gauge interest and knowledge related to older adult falls. There are 30 members of the MTFD staff and 23 responded to the survey. The results are defined and studied in the following manner:

Question one; have you heard of Community Risk Reduction (CRR) programs associated with the fire service? The survey responses were 52% of polled employees have heard of Community Risk Reduction. The second question was; how important is prevention activities to the suppression division at MTFD? The responses were; 43% said very important, 35% said Important, 17% stated they were neutral and 4% said prevention was not important. The third survey question had multiple answers; do you think the suppression staff can prevent older adult falls and associated injuries with a community education program? The respondents were allowed to pick more than 1 response. The results are 74% were encouraged the MTFD could prevent falls with the help of community partners. An additional caveat was 78% could see reduced numbers with more staffing in suppression, 13% stated that we were too busy to do prevention activities. There were no answers to the let the programs do it themselves without our support.

Question four was 100% to the negative, none of the staff have heard of the “Remembering When” program. The fifth question involved employee participation in home inspections. “Would you be willing to perform a quick home safety inspection after a customer returns home after a fall with an injury?”. The responses were 86% yes most definitely; the employee would assist with the home safety survey. There was descending option of 13% or three personnel who would not want to help. The final survey question was “Meridian Fire responds to the average of four fall related calls per day, do you think a fall prevention program would help reduce the number of non-transport calls and prevent injuries. The answers were positive, with 26% most definitely and 40% definitely. The remaining respondents were 20% “I don’t know” and 13% “maybe”. After performing the split-half analysis on the survey results, the reliability coefficient was 0.85 for all questions, except question three, which allowed multiple answers. The reliability coefficient on question three was 0.62, which indicates a bad question. During the survey period the interviews were completed.

Community Risk Reduction

The interviews began with the MTFD Fire Chief. The first question was the same as the survey, have you heard of Community Risk Reduction programs associated with the fire service? Fire Chief Fredrick Cowper said “I have supported several EFO students during his 19-year tenure as Meridian Township Fire Chief. Those EFO students have provided a lot of information about CRR. During the last budget year a special line item was added for CRR. I believe CRR is essential for fire department operations” (F. Cowper, personal communication, June 1, 2017). The next senior staff member Battalion Chief Phinney stated; “I believe a proactive approach to fire and injury reduction is crucial to the future of the fire service. The Community Paramedicine program is clearly a part of CRR, and it is how we can help our customers and citizens

beyond the emergency call” (K. Phinney II, personal communication, June 9, 2017). Phinney explained “The Para-Medicine program can help teach fall prevention to the older adults in the fire departments service area. If we can reach the venerable people recently discharged from the hospital, before they fall, we can prevent a significant amount of falls. Most patients who were recently discharged from the hospital may be on new medication or deconditioned to a point of general weakness” (K. Phinney II, personal communication, June 9, 2017). Phinney concluded; “These patients could be warned of dehydration and medication making them dizzy and susceptible to fall. Additionally, patients could have mobility problems and the paramedics who are involved in Para-Medicine program can alert them to use the mobility tools provided to prevent injury and falls” (K. Phinney II, personal communication, June 9, 2017).

The next interview was with the Tri-county Office on Aging Program Manager Christine Histed. The same question on CRR was posed to Manager Histed. Manager Histed stated she was not aware of the specific CRR program, but did acknowledge that local fire departments can play a critical role in directing patients to resources available to them through local Senior Centers and assistance agencies (C. T. Histed, personal communication, June 5, 2017). Histed continued with “the agencies mission is to promote and preserve the independence and dignity of the aging population”. One of the biggest programs at the agency is “Meals on Wheels”. The Meals on Wheels program delivers a hot meal to homebound seniors and coordinates community meals several times a week in different locations. The program is an excellent way to get seniors additional help because the delivery person makes contact daily (C. T. Histed, personal communication, June 5, 2017).

The manager continued with an explanation of the fall prevention program the agency offers to the community. This program is evidenced based and is used throughout the country,

the program is called A Matter of Balance (MOB). Histed explained; “this fall prevention program is an eight-session workshop conducted by volunteer lay leaders for two hours each week in the community setting” (C. T. Histed, personal communication, June 5, 2017). Histed provided this researcher with a copy of the program and it is attached as (Appendix B). The next interview was with the Meridian Township Senior Center Coordinator Cherie Wisdom. Wisdom was asked about CRR and responded with “I am not aware of the program, but I do have the fire department deliver a fire safety program to the Community Center members twice a year” (C. Wisdom, personal communication, June 7, 2017). Wisdom closed with an invitation to MTFD to provide smoke detector and fire safety checks if members requested that service.

The next group of professionals interviewed on CRR was older adult housing managers. The types of housing complexes were each different and provide a different challenge to reducing community risk. The complexes included a large three-story complex; The Marquette, a complex of 32 buildings; Grange Acres, and a smaller two-story building; Marsh Pointe. Each complex offers a different range of services and housing types. The process began with the Marquette Retirement and Senior living facility in Haslett Michigan. General Manager Connie Nash and Assistant General Manager Cathleen Arnold attended the interview and provided the following information. The management team was not aware of the program involving community risk reduction in MTFD. The team was aware of programs that involve certain governmental agencies and their goal to make communities safer and be proactive. They were well versed on the Tri-County Office on Aging and have hosted seminars produced by that agency (C. Nash, & C. Arnold, personal communication, May 25, 2017).

The interview with the Services Coordinator Brenda Snow for Grange Acres Senior Living Complex gleaned the following: Snow began with an explanation of her role and

described the housing complex's funding as it relates to reducing risk in her community. When the CRR program was explained Snow related it to her position as service and activity director. Snow is responsible for planning and executing programs that will assist her residents with quality of life. Snow explained the apartments are a United States Department of Housing and Urban Development (HUD) 1st housing community. That means that the complex is partially fund with government grants and residents rent payments. The amount of governmental support for programs is directly related to the amount of classes provided. Snow was sure to include that the main objective of her role is to keep the residents connected but preserve their independence (B. Snow, personal communication, June 5, 2017).

The next interview was with Community Manager Amy Taylor-Adams and Leasing Consultant Danielle Tigner: from the Marsh Pointe Senior Apartments. The management pair is aware of the Meridian Township yearly rental inspections along with all of the requirements the Township Building Department. The team was not aware of the fire departments prevention activities beyond the inspections. The Meridian Township Fire Inspector does make yearly visits to check on the fire alarm system (A. Taylor-Adams, & D. Tigner, personal communication, June 5, 2017). This complex does offer several programs that keep residents aware of risks and problems associated with senior communities.

The final interview was with Business Manager Amanda McClain from the Cyprus Home Care skilled home care provider. Manager McClain has heard of the fire departments prevention division, but is unclear on the involvement with community risk reduction. This researcher explained the basis of community risk and what the department is doing to help the community be better prepared fore emergency incidents. McClain has been in home care for 18 years and has seen a lot of improvement in senior care and injury prevention over that period of time.

Home care has progressed over time also to become more focused on keeping the client in their home and providing for independence (A. McClain, personal communication, June 6, 2017).

Resources for Community Fall Prevention

The next question the individuals answered relates to resources provided by the service organizations. What resources do you provide to address the growing problem of older adult falls? According to Chief Cowper, the MTFD refers citizens to the Senior Center to address any fall prevention programs. The department has Citizens Assistance Program (CAP) administered by EMS Training Chief Priese. The CAP provides assistance with social services and connecting customers with other service providers. Chief Cowper did learn of an exercise program through the Meridian Township Parks Department while attending the National Health and Fitness Day for seniors. The Meridian Mall hosts the exercise program and is coordinated through the Meridian Township Parks Department. This program is a social experience with walking and stretching involved. Chief Cowper discussed the possibility of the department becoming an informational partner to the local programs to bolster their attendance (F. Cowper, personal communication, June 1, 2017). The Chief continued with his personal experience with this problem outside the role of Chief. Older fall victims often never fully recover to pre-fall standards.

Battalion Chief Phinney gave the following information; MTFD can do more with an active role in Community Para-Medicine. The department can provide information on a range of services available to older adults that are in our service area, to prevent injuries. MTFD does provide for no cost lift assists for fall victims and families who are challenged by moving a weak family member. The department is a bridge for services until adequate help can be acquired from other private entities (K. Phinney II, personal communication, June 9, 2017).

The Program Manager from Tri-County Office on Aging provides; fall prevention programs with local and grant funding. The MOB program (Appendix B) is given four to five times a year depending on funding and requests. The evidence-based programs are studied and assured to produce results if program requirements are followed. The costs are covered by local Senior Centers and grants from Federal Agencies. The Meals on Wheels program gives several referrals a month to the fall prevention classes. Additionally there are monthly newsletters to increase attendance. Health plans will sponsor classes if there is a need shown in a local community without means to produce a class on there own. Lastly the agency has a referral system for help locating a service needed. Some of the services listed are for handy man, home nursing and housing (C. T. Histed, personal communication, June 5, 2017).

The Meridian Senior Center is directly involved in providing programs and services to the adult population.

Coordinator Wisdom (2017) stated; Our Mission statement is; "We believe that staying active is a key to physical and emotional well-being and that retirement is the time when it is most important to have activities which are interesting and enjoyable. The Meridian Senior Center was created to serve as a township focal point where individuals or groups come together for service and activities, which enrich their quality of life and enhance their worth as individuals. The Center provides social, recreational and educational programs that offer opportunities to remain or become a vital and active part of the community" (p.2).

This statement is the guideline for programs at the Senior Center. The center provides two fall prevention programs a year coordinated through the Tri-County Office on Aging. Additional programs involve Yoga and Tai Chi, which assist in balance and core strength (C. Wisdom, personal communication, June 7, 2017).

The housing managers provide a wide range of programs and services to their residents and the community. The Marquette does not offer any official fall prevention programs, but does have an exercise activity each day and several can be linked to fall prevention. Examples they offer are; flex and stretch, chair dancing, exercise group and a walking program to promote wellness and social interaction (C. Nash, & C. Arnold, personal communication, May 25, 2017). In reviewing the programs several components of fall prevention can be found. One concern with indorsed exercise classes would be a liability issue; the activities are performed at the resident's own risk at the Marquette. The programs offered at the Grange Acres complex are similar to those listed above but expand services even further beyond the walls of a classroom. The complex works with the Tri-County Office on Aging to bring evidenced based programs to the local residents and surrounding community. The classes are open to anyone in the Haslett area. When funds are available through HUD or local grants. The complex sends out notices to the Senior Center and Meals on Wheels participants to alert them of the opportunity for program participation.

Grange Acres has recently received funding for a community wide emergency pendant program. The residents are issued an emergency pendant when they arrive for occupancy. The pendant, when activated, will summons emergency services to the location of the resident. The pendant program will work anywhere in the complex, providing a sense of security to leave the apartment and become social. This program has become very successful, increasing independence (B. Snow, personal communication, June 5, 2017). The Marsh Pointe Apartments offer the Tri-County Office on Aging Matter of Balance and provides limited transportation to off campus programs. The on campus classes and programs are resident driven. The offerings

are chair yoga, diabetes education and a walking club. The programs have good attendance and are led by residents (A. Taylor-Adams, & D. Tigner, personal communication, June 5, 2017).

The home services provider explained that falls are a large part of the home care injury prevention services they provide. The providers escort the clients when a fall is possible; like showering and transferring from mobility assistance device to bed. The intake of new customers provides a home visit for the intake coordinator, so the care that's required can be tailored to the client. This might involve asking to clear hallways of obstructions or the installation of grab bars. This step is advantageous to fall prevention because it will give increased safety to the client and caregiver. The caregivers champion the use of mobility devices, such as walkers and canes, which reduced the chance of a fall. Fall prevention is a large part of home care (A. McClain, personal communication, June 6, 2017).

Fall prevention programs, do they reduce falls

The next portion of the discussion involves whether fall prevention programs work or not? Chief Cowper was not current on the related data, but considers all evidence-based programs useful in injury prevention. He said, "If a program provides useful information and will reduce injuries, the department will support it" (F. Cowper, personal communication, June 1, 2017). BC Phinney did not have an adequate exposure to fall prevention programs to gauge their effectiveness. This researcher did explore what role the fire department could play in fall prevention. Phinney spoke about home reviews and all of the items associated with accident and injury prevention. Phinney explained that the department could check smoke detector for low batteries and age related problems. He continued with, we have a box of detectors in the storage area, if a problem is found we could replace the smoke detector immediately to make our citizens safer. MTFD could also provide a list of services provided in the area to older adults, which

would make the burden of finding a current provider much less worrisome on family members (K. Phinney II, personal communication, June 9, 2017).

Tri-county Manager Histed did see results since the MOB program began, but she has only held the position for a year. The previous person did say the programs work and did see results for participants. Histed did give some additional information of attendance issues. The drop out rate is about 30% mostly due to the lack of transportation. When the classes are held in the housing community, the attendance is higher. Also there is an accelerated class that lasts 2 weeks for people who want less of a time commitment. The Ti-Chi portion of the program is the most popular and produces the greatest results. Several national surveys have produced the evidence to maintain the program (C. T. Histed, personal communication, June 5, 2017).

Meridian Senior Center Coordinator Wisdom believes if the program is taken seriously and the guidelines are followed the chances of the member falling are reduced. The strength exercises along with the balance component make the member stronger and more aware of the surroundings. The prevention program also involves vision and medication reviews to give the member more control over their world. Additionally, the focus of most programs are to keep members independent and in their homes (C. Wisdom, personal communication, June 7, 2017).

Marquette Managers, Nash and Arnold believe that evidence based programs have there place in fall prevention but the managements stance of liability over rules the narrow focus on fall prevention. Nash informed this researcher of the position of enrichment coordinator. This person is responsible for setting a schedule and assuring compliance with rules for activities. The activities are preformed to each resident's ability and no up coaching is allow. Some classes may encourage people to extend outside their comfort zone and that's when people get hurt. The

activities are well researched and produce very little problems for management (C. Nash, & C. Arnold, personal communication, May 25, 2017).

Coordinator Snow has made the following observations; the pendant program has been working for over a year now, and residents have praised the quick response they receive when they have fallen. The fall prevention program given last year had mixed results. The resident did not continue with the exercise and prescribed items to reduce falls. After the class the motivation was lost, a follow up program of weekly Tia Chi before the community meal provided by Meals on Wheels, may be a solution to that result. Snow explained also about independence and residents not wanting to be put in a nursing home as another conflict with fall prevention home inspections, which is part of fall prevention. Snow believes that education is the best attempt to reduce falls in older adults (B. Snow, personal communication, June 5, 2017).

Marsh Pointe Apartments Manager Taylor-Adams thought; education and exercise the residents are better prepared to prevent a fall. The Matter of Balance class was offered in the community room two years ago with good attendance and the residents who participated in the program seemed to be less afraid to be mobile. The team interacts with residents daily and can see the problems they face regarding being active. Some residents have mobility helpers, like walkers, and those tools seem to help maintain the activity the resident desires. Fall programs and the related exercise seem to help our residents (A. Taylor-Adams, & D. Tigner, personal communication, June 5, 2017).

The remaining opinion on fall prevention working or not is from Cypress Home Care Manager McClain “Fall prevention classes are only one step in the fall matrix, to prevent falls all aspects of prevention are necessary”, according to McClain. The classes set the basic education and begin prevention but compliance is a problem after the program is complete. She has seen

good things happen after a class but the issue is maintaining the exercise aspect or using the mobility device. McClain also has witnessed dehydration as a cause of falls, often effecting older adults. The lack of movement and poor hydration the body becomes weak and susceptible to falls. When working with clients, the provider must insure compliance with all aspects of care (A. McClain, personal communication, June 6, 2017).

NFPA Remembering When

Once again we begin with Fire Chief Cowper on the National Fire Protection Association (NFPA). Remembering When Fall and Fire Safety program. Question four was; Have you heard of the fall prevention program “Remembering When”? Chief Cowper was not aware of this program offered by the NFPA. With research: I explained that the program partners with home nursing providers to teach older adults about fall prevention and fire safety. This program has national acceptance and is evidenced based. Chief Cowper said that could be a good program if the current classes are not effective or there is a demand for additional programs (F. Cowper, personal communication, June 1, 2017). BC Phinney had not heard of the program, but thought the fire safety aspect was important also. Manager Histed had not heard of the program, Wisdom was also unaware such a program is in circulation. The Marquette team has not been associated with that program; Matter of Balance is what they offer.

Coordinator Snow has not heard of the Remembering When program. This researcher explained the program and Snow was receptive to the fire prevention portion of the program. Snow offered the community room or the community luncheon as opportunity to educate residents on fire safety. We discussed the fire victims of the past, which there were two, and how important smoking safety is in the complex is. Snow thought if the fire department provided a lunch and learn the turnout would be worth the effort. The Marsh Pointe complex has not heard

of the program. Manager McClain has not heard of that program, but she is aware of Matter of Balance classes and the YMCA program Moving For Better Balance. Both of those evidence-based programs are offered locally and have good reviews. McClain does not endorse either class, but provides information when necessary. The home care providers at Cypress Home Care do work with clients on range of motion and encourage supervised movement (A. McClain, personal communication, June 6, 2017).

Partnerships with Private Nursing

The Remembering When program involves forming a partnership with a local for profit private home care provider to provide classes. The next research question was; if MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department? Chief Cowper began with information about liability and experience's pertaining to partnerships with private businesses. The township management does not like to single out one agency and steer all clients in one direction. The township needs to support local businesses equally. Chief Cowper was concerned with liability involved with exercise programs. Additionally if the selected service has any problems, they become township problems. Chief Cowper suggested any new partnerships go through the attorney before approaching the idea (F. Cowper, personal communication, June 1, 2017).

BC Phinney began with; this aspect of the Remembering When program could be a challenge for MTFD. The department tries to stay away from only partnering with one agency, when there are over 15 home care agencies in the area. Phinney thought the department could refer and inform our customers better as a single agency not the partner of private business. Phinney continued with, MTFD has a hard time setting specific appointments because we have to use our duty crews for those activities presently. If there were other personnel dedicated to an

education and prevention program, MTFD could address those needs much easier. The Community Para-medicine program could provide the resources necessary to champion a fall prevention program in our service area. Phinney ended with the possibility of a dedicated month of community risk reduction by the suppression division, if programs were developed (K. Phinney II, personal communication, June 9, 2017).

Manager Histed had more ideas for our performance beyond a single partnership. Histed suggested we play a support role in either Meals on Wheels or have a drop in day coordinated with the fall prevention program. The Meals on Wheels could be an off duty action and the fall class presentation would be an on duty presentation. The only problem with a drop in presentation would be the duty crew gets called away for an emergency run, the prevention division maybe able to coordinate or give the presentation if the crew is called away. The role of informing our customers and citizens about local programs and senior centers may be the best role for the fire department. The increasing older adult population is placing a real strain on resources and any help would be welcomed (C.T. Histed, personal communication, June 5, 2017). Coordinator Wisdom echoed Histed. Wisdom discussed the local strength and fitness classes coupled with fall prevention program would cover current members needs. If one of MTFD's customers has a problem or concern the department could provide phone numbers, handout flyers on classes or other helpful agencies. Wisdom also discussed the fire department attending any of the luncheons at the Center to provide "expert" testimony on emergencies and what help is available if 911 can't help provide the service necessary to rectify the problem (C. Wisdom, personal communication, June 7, 2017).

The Marquette team gave the following perspective. We offer private nursing resources for residents to use but any service can work with residents when approved by management. The

two local services in house are Great Lakes and Tender Heart Home Care. These services provide residents personalized home care. The services offered involve daily living chores and assistance whenever the client needs help. These services do provide certain fall prevention, but the interaction is minimal. Nash and Arnold did review their interactions with the providers and they were positive, but the team thought governmental service pairing with private nursing might pose a risk to both parties. With so many providers in home health care it may be difficult to pair with just one (C. Nash, & C. Arnold, personal communication, May 25, 2017).

Coordinator Snow reported with similar results; Snow again pushed education and information delivery. The residents do have private nursing providers coming in weekly or daily. If the fire department was to partner with a local home nursing provider, they should use one that has a relationship with the community already. To provide another class might not be the best answer for the fire department, the management of the complex will have to approve any classes (B. Snow, personal communication, June 5, 2017). The Marsh Pointe team provided similar results to the question; we strive for independence and privacy, our residents can have any nursing provider or home care necessary for their health and wellness. We do offer a list of providers but do not endorse any single company (A. Taylor-Adams, & D. Tigner, personal communication, June 5, 2017).

The final view on partnerships was provided by Manager McClain thought; that ample local programs are offered and provide enough space for everyone who wants to participate. The better focus for the fire department may be through volunteering with Meals on Wheels or giving informative seminars to local senior groups. McClain did not see any issues with a partnership, but did suggest partnering with all local providers to disseminate fall prevention information

equally. If the department developed lists of providers for services that would be a better use of their time and resources (A. McClain, personal communication, June 6, 2017).

Home Inspections

Chief Cowper answered the last question; are home inspections a necessary part of fall prevention? The Chief began with the problem of entering a home under false pretenses. If MTFD were called to a fall injury or a lift assist, we are there for a medical concern and not to inspect the home for hazards. The HIPPA protections would prevent us from listing fall victims and using their data in a different forum. This again would have to be developed with legal and administrative staff to assure compliance with current laws. Chief Cowper would be open to delivering information to our customers that would benefit them; we just have to do it properly. The Chief would be encouraged by any function that would help our citizens live a safer and more productive life (F. Cowper, personal communication, June 1, 2017). BC Phinney began by an expression of redirection, the terms home inspection were too controlling and governmental. The Chief thought the name should be lessened to home assessment or evaluation. The list of items should be worded as such to make suggestions rather than demands. The opening introduction should involve, preserving their independence and the desire to keep them in their home. The personnel should have a relaxed demeanor and make the customer feel they are their supporters, rather than demanding change. MTFD can be an informational clearinghouse for local services and service providers; they can reduce time between needed answers and having the correct answer quickly. Phinney believes delivery is the key to success and trust with the department's customers (K. Phinney II, personal communication, June 9, 2017).

Program Director Histed also believes; the home inspection is a critical part of post fall activity, but the fire department may not be the best fit for that service. Histed worries about the

authority role the fire department plays in the community. People may fear the loss of independence if the fire department feels the person not safe at home. A non-governmental reviewer can make suggestions and connect people with services without having to worry about the look of impropriety (C.T. Histed, personal communication, June 5, 2017).

The Marquette management team provided the following; inspections were discussed and the theme of independence and privacy were paramount to management. The Marquette does employ a maintenance staff, which enters an apartment whenever there is a problem, but unless a danger is imminent the staff try's to just fix what's wrong, not remove and rearrange furniture. There is a yearly inspection, but that is for maintenance and appliance updates. The residents enjoy the freedom to have their own furniture and personal belongings and management does not infringe on that. The home health aids can move items if the resident or family requests due to a trip hazard, but a fall prevention inspection may be too intrusive. Wellness checks are performed if a resident has not been down for meals, but most residents enjoy their independence (C. Nash, & C. Arnold, personal communication, May 25, 2017).

Snow provided a similar approach to inspections; home inspections are the least important component of the program. The areas were addressed before, like fear of being taken from their home and loss of independence. If the inspections or surveys can be address through a relaxed atmosphere they might work. For example if a Meals on Wheels driver suggests the person move an area rug it would be less intensive than a fire department in full uniform (B. Snow, personal communication, June 5, 2017).

The Marsh Pointe team indicated the following; since our building is all rentals, inspections are a part of the leasing agreement. The inspections are for building supplied items, like carpet and appliances, if other observations are made they are safety related only. As a

management company we value the residents privacy and ability to self regulate. The inspections are not for furniture placement or throw rug removal. The fall prevention items such as grab bars and pull stations are in every unit, and are checked on during each inspection. Additionally there are Michigan State Building rules (MISDA) that show what items are necessary in senior housing and list inspection requirements. So to preserve the independence and privacy we follow the rules and guidelines from the state (A. Taylor-Adams, & D. Tigner, personal communication, June 5, 2017).

Manager McClain provided the remaining information; home inspections are a hard item to sell to older adults. Cypress Home Care does suggest movement of certain items that the staff might have conflict with then moving the client around the home. The client may resist change but with education and family support the suggestion is usually accepted. The idea of an “inspection” is governmental and hard to sell, that implies required compliance. McClain has learned that suggestions and ideas are better received, than demands. McClain has a lot of experience dealing with families and most groups are seeking answers for assistance with their loved one. If the fire department were a neutral information provider, that service would be well received (A. McClain, personal communication, June 6, 2017).

Additionally to the information gained during the interview process, Program Manager Histed provided this researcher with an important senior care provider; Senior CommUnity Care. This is a program has a wide range of assistances. The services range from home healthcare to help with daily chores. The program partners with Volunteers of America and PACE. PACE is Programs of All-Inclusive Care for the Elderly; it is a nation wide organization for senior healthcare. Senior CommUnity is paid for through Medicaid, Medicare and private payments. The program is a way for people to stay in their homes and receive the care they require. This

program preserves the independence the older adults demand. The program can also support caregivers and families so they can get some time away to perform other tasks. Histed thought this would be a great program for the fire department to refer people to.

The remaining survey (Appendix D) was conducted on National Senior Fitness Day, May 31, 2017. Seniors from across Meridian Township attended a lunch and learn session in Wonch Park, Okemos, Michigan. Question one pertained to individual fall victims. 8 older adults had fallen and 9 had not. Question two was did you report it? 4-yes and 2-no. Question three was, are you aware of programs to reduce fall risk? 7 stated- MOB, 4 provided- the Mall program and 3 replied yes but nothing specific. Question four inquired if the subject had knowledge on fall proofing a home? 10 responded affirmably. The positive answered- handrails grab bars, lighting and removing rugs. Three people did not know the steps for environmental fall prevention. Lastly the respondents provided information on where to get help with fall prevention. Resources listed as; The Meridian Senior Center, the Internet and possibly the church or physician. A national survey was conducted in August of 2015, by Senior Centers across the United States and that information is listed below.

Falls Prevention Activities	Response Percent	Response Count
Evidence-based fall prevention programs such as "A Matter of Balance" or "Tai Chi"	88.7%	94
Blood pressure checks	78.3%	83
Education about risk factors	77.4%	82
Health Fair that incorporates falls prevention information or activities	52.8%	56
Falls risk screening	38.7%	41
Medication reviews	37.7%	40
Foot exams offered by a podiatrist	36.8%	39
Balance and gait testing	32.1%	34
Vision exams	25.5%	27
No falls prevention programming is conducted	5.7%	6

(National Council on Aging [NCOA], 2015, p.1).

These results are in line with the narrow survey taken on National Senior Fitness Day in Meridian Township by this researcher and the information gleaned during the interviews. This researcher's original hypothesis was MTFD should partner with a local home care provider to provide the NFPA fall prevention program Remembering When. After careful review of the statistics and speaking with the experts the hypothesis has changed to; becoming an informational clearinghouse for community resources and referring contacts the appropriate programs and services.

Discussion

The problem is that Meridian Township has a large number of falls occurring each day with significant injuries to adults over 65. The national and local research relieved, every year; one in three adults over 65 will have a fall event. Furthermore, people who fall once are two to three times more likely to fall again (National Center for Injury Prevention and Control, 2015, p.2). The national statistics are mirrored by this research project; MTFD is called for a fall related incidents 50% of the time. The data also showed an increase in run volume as the Township citizen's average age increases. This project conducted a community analysis of Meridian Township, which revealed; emergency and non-emergency incidents along with response locations. The research was not surprising; the responses for fall related injuries are increasing yearly, and the locations are senior housing. This researcher began the process of building community partnerships with local senior centers and senior-housing leaders; to help reduce the incidents of fall related injuries.

The research disclosed Meridian Township has a good start on fall prevention. The programs offered locally do meet the demand of seniors requesting fall prevention education. The original thesis was; MTFD should begin a fall prevention program to help reduce the fall

problem in Meridian Township. The revised strategy to solve the problem is; MTFD should play is information provider and Community Para-Medicine participant. The next step in the plan should be to implement the strategy in the community. This would involve becoming an active member of the hospital discharge procedure, relating to the Community Para-Medicine program.

To guarantee success the five E's of CRR should be intergraded into the program. The five E's were described in the text as: Engineering, Emergency Response, Economic incentive, Education, and Enforcement. The NFPA suggests; "Each of the five E's contribute to the development of a comprehensive community risk reduction program. When combined, the synergistic effect makes them more effective than if utilized individually (Sawyer, Phillips, Catts, & Sawyer, 2016, p.14). The NFPA continued with a great opening line for the future of the fire service and MTFD; "Community Risk Reduction is the gateway to reinventing the fire culture. It requires buy-in from the top and strong visionary leadership to champion needed change and navigate the process." (Sawyer et al., 2016, p.15). The NFPA clearly has a goal in mind for the fire service; change is necessary to sustain the future. The research showed how MTFD can make the community better protected from injuries, and help safeguard the citizens we were sworn to protect.

The research questions began with: What are the demographics of fall victims in Meridian Township? The demographics showed a higher number of female patients and the group of 65 and older patients, comprise 60% of the patient volume. These numbers are the same as national reports. The following chart reports as follows:

National Estimates of the 10 Leading Causes of Nonfatal Injuries Treated in Hospital Emergency Departments, United States – 2013

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Unintentional Fall 134,229	Unintentional Fall 852,884	Unintentional Fall 624,890	Unintentional Struck By/Against 561,690	Unintentional Struck By/Against 905,659	Unintentional Fall 742,177	Unintentional Fall 704,264	Unintentional Fall 913,871	Unintentional Fall 930,521	Unintentional Fall 2,495,397	Unintentional Fall 8,771,656
2	Unintentional Struck By/Against 28,786	Unintentional Struck By/Against 336,917	Unintentional Struck By/Against 403,522	Unintentional Fall 558,177	Unintentional Fall 814,829	Unintentional Overexertion 638,745	Unintentional Overexertion 530,422	Unintentional Overexertion 461,114	Unintentional Overexertion 266,126	Unintentional Struck By/Against 281,279	Unintentional Struck By/Against 4,214,125
3	Unintentional Other Bite/Sting 12,186	Unintentional Other Bite/Sting 158,587	Unintentional Other Bite/Sting 112,633	Unintentional Overexertion 294,669	Unintentional Overexertion 672,946	Unintentional Struck By/Against 599,340	Unintentional Struck By/Against 444,089	Unintentional Struck By/Against 390,931	Unintentional Struck By/Against 261,840	Unintentional Overexertion 212,293	Unintentional Overexertion 3,256,567
4	Unintentional Foreign Body 10,650	Unintentional Foreign Body 139,597	Unintentional Other Bite/Sting 107,975	Unintentional Cut/Pierce 114,285	Unintentional MV-Occupant 627,565	Unintentional MV-Occupant 526,303	Unintentional MV-Occupant 374,231	Unintentional Other Specified 385,221	Unintentional MV-Occupant 227,620	Unintentional MV-Occupant 197,646	Unintentional MV-Occupant 2,462,684
5	Unintentional Other Specified 10,511	Unintentional Cut/Pierce 83,575	Unintentional Overexertion 93,612	Unintentional Pedal Cyclist 84,732	Unintentional Cut/Pierce 431,691	Unintentional Cut/Pierce 402,197	Unintentional Other Specified 300,154	Unintentional MV-Occupant 343,470	Unintentional Other Specified 212,168	Unintentional Cut/Pierce 156,693	Unintentional Cut/Pierce 2,077,775
6	Unintentional Fire/Burn 9,816	Unintentional Overexertion 81,588	Unintentional Pedal Cyclist 74,831	Unintentional Unknown/Unspecified 84,668	Other Assault* Struck By/Against 381,522	Other Assault* Struck By/Against 342,514	Unintentional Cut/Pierce 297,769	Unintentional Cut/Pierce 282,353	Unintentional Cut/Pierce 189,440	Unintentional Poisoning 100,988	Unintentional Other Specified 1,767,630
7	Unintentional** Inhalation/Suffocation 8,294	Unintentional Other Specified 65,120	Unintentional Foreign Body 63,450	Unintentional MV-Occupant 73,692	Unintentional Other Specified 321,914	Unintentional Other Specified 336,990	Other Assault* Struck By/Against 207,287	Unintentional Poisoning 237,328	Unintentional Poisoning 153,767	Unintentional Other Bite/Sting 90,850	Other Assault* Struck By/Against 1,291,100
8	Unintentional Cut/Pierce 7,139	Unintentional Fire/Burn 52,884	Unintentional MV-Occupant 58,114	Unintentional Other Bite/Sting 64,848	Unintentional Other Bite/Sting 177,665	Unintentional Other Bite/Sting 180,922	Unintentional Poisoning 175,870	Other Assault* Struck By/Against 169,688	Unintentional Other Bite/Sting 97,474	Unintentional Other Specified 86,729	Unintentional Other Bite/Sting 1,174,267
9	Unintentional Unknown/Unspecified 5,735	Unintentional Unknown/Unspecified 41,297	Unintentional Dog Bite 43,499	Other Assault* Struck By/Against 62,829	Unintentional Unknown/Unspecified 163,923	Unintentional Poisoning 180,448	Unintentional Other Bite/Sting 138,410	Unintentional Other Bite/Sting 145,349	Other Assault* Struck By/Against 73,674	Unintentional Unknown/Unspecified 74,864	Unintentional Poisoning 1,055,960
10	Unintentional Overexertion 4,985	Unintentional Poisoning 32,443	Unintentional Unknown/Unspecified 35,303	Unintentional Other Transport 35,609	Unintentional Poisoning 152,962	Unintentional Unknown/Unspecified 129,308	Unintentional Unknown/Unspecified 106,498	Unintentional Unknown/Unspecified 110,102	Unintentional Unknown/Unspecified 67,974	Unintentional Other Transport 68,022	Unintentional Unknown/Unspecified 819,878

*The "Other Assault" category includes all assaults that are not classified as sexual assault. It represents the majority of assaults.

**Injury estimate is unstable because of small sample size.

Data Source: NEISS All Injury Program operated by the Consumer Product Safety Commission (CPSC).

Produced by: National Center for Injury Prevention and Control, CDC using WISQARS™.



Centers for Disease
Control and Prevention
National Center for Injury
Prevention and Control

Non-fatal unintentional falls are number one in all categories. With increased education and awareness these numbers can be lowered.

Question two was: Where are the falls happening that cause injuries to the residents of Meridian Township? The location of calls for service was not surprising; Meridian Township is a bedroom community for the City of Lansing, East Lansing, and Michigan State University. MTFD responses are varied day by day, but average 10 to 15 calls per day. The majority of falls are occurring at home for MTFD patients.

Question three was; What is the response data from MTFD referencing falls in Meridian Township specifically transport vs. non-transport incidents? As reported, the calls for service are increasing yearly at a pace of 200 per year. The fire related calls are not increasing, just ALS

ambulance responses. Also, the numbers of citizen assists are increasing yearly. MTFD is responding to assisted care facilities to perform lift assists, which means, we lift patients for the staff at the facilities. This is a new caveat for our service agenda, the facilities are staffed with three to five people, but are required to call MTFD if the patient can not help get themselves back to their original position. This new request also places a strain on the valuable resources provided to the citizens of Meridian Township. MTFD response data shows 50% of the calls for service are for falls and fall related injuries.

The final question was the largest explored in this research project. What is the best role for MTFD to perform in preventing falls for the customers they serve? The literature review began with the staggering numbers on costs involved with older adult falls: Hourly predicted that: “the number of older adult fatal falls is projected to reach 100,000 per year by 2030 with an associated cost of \$100 billion” (Houry et al., 2015, p.7). The federal government yearly is reducing the amount of health care dollars and the number of older Americans becoming eligible for Medicare is increasing. If fall prevention can save health care dollars, more grants and programs are needed to implemented and make the program successful. The information in Hourly’s study revealed that evidence-based programs are needed urgently, but first public recognition is necessary to create the sense of urgency (Houry et al., 2015, p.76). Increasing the distribution of literature could create the sense of urgency needed to bring more resources to Meridian Township. MTFD could be the leader in this public information campaign.

During the literature review, this researcher studied barriers to fall prevention programs. The following concerns were listed by Frieson; “denial of risk for falls or the need for services, lack of interest in group activities, lack of time commitment, perceived a personal threat from loss of independence, transportation, and costs” (Frieson, 2016, p.1). MTFD can explore the

barriers and reduce them with the proper information distribution program. After speaking with the interview participants, the biggest barrier is loss of independence. Blalock's research group's findings made it clear; "Underscoring the value older adults place on their independence, a study found that 80% of participants would rather die than experience a hip fracture that caused them to move to a nursing home and need assistance with activities of daily living" (Blalock et al., 2016, p.1314).

The interview section of the research project discovered numerous ideas for MTFD's role in fall prevention. Chief Cowper spoke on CRR activities and the history of the department in active community risk reduction. MTFD has a citizen assistance program for referrals to local supporting agencies. This program could be expanded and used daily if more resources are committed to the suppression division. Battalion Chief Phinney discussed the Community Para-Medicine program and MTFD's future role in participation. If MTFD takes an active role in this up-and-coming program, capital can be increased to make Community Para-Medicine self-supporting. Fall prevention can be a major focus for Community Medicine. The local senior services leaders spoke of their programs and how MTFD can increase participation and become an active community partner. The Tri-County Office Of Aging has established programs MTFD can refer citizens as well. Additionally, the EMS crew can provide pertinent information after a fall incident to reduce future injuries. The housing leaders interviews welcomed any service MTFD would provide to keep their residents healthy and in their homes.

Fall prevention was the next topic discussed in the meetings. Chief Cowper was encouraged by the idea of making the community safer with fall prevention programs and services. The Chief discussed raising budget requests to bolster MTFD effort in CRR. BC Phinney spoke of the Community Para-Medicine becoming a bridge for prevention services to

the customers and citizens of Meridian Township. MTFD can double its exposure to fall prevention with suppression referring citizens to programs and Para-Medicine recruiting people after hospital discharge. The local services coordinators provided information on programs that MTFD can be actively involved in and could promote immediately. The housing managers have a host of programs for each complex they manage. MTFD can refer clients to the proper resources within their proximate housing complex. The home services provider offered a range of services each customer could employ to reduce falls, specifically grab handle placement and clear hallways for fall prevention.

The subject matter next on the research agenda was; Do fall programs work to prevent falls in older adults? MTFD personnel did not have any exposure to fall prevention programs. Both the interviews and survey showed little knowledge on older adult falls. From The Office on Aging, Manager Histed thought the programs work, but required follow up and maybe a continuing exercise and stretching class. MTFD can provide information on the follow up classes locally and encourage participation with the public speaking opportunities the department has. The housing managers were satisfied with current programs and encouraged MTFD to partner with them in making residents safe and secure. This partnership should involve information distribution and referrals to management when the safety of the resident is a concern. Cypress Home Care Manager McClain believed fall prevention classes work with the proper education, continued use of exercise and home safety compliance. Both MTFD and home care providers can provide the follow-up necessary to assure program compliance with home visits. MTFD could use the Community Para-Medicine program as a base for home visits.

The section on Remembering When provided monomial information. The NFPA needs to increase the advertisement of this program to fire departments and private home services

providers if they want the program to grow. MTFD administration did not see any support for another fall prevention program for Meridian Township. The housing leaders did want to include the fire prevention aspect of Remembering When, MTFD could provide programs over a lunch and learn gathering directed by local housing complexes and Meal on Wheels.

Partnerships between public and private agencies provided the next discussion. The NFPA program Remembering When requires dual involvement from local fire departments and private nursing agencies for instruction. Chief Cowper was concerned about endorsing only one local provider and liability during the program. BC Phinney thought staffing the program would be a problem because the on duty crew would be used as class leaders. The run volume for MTFD is too great to dedicate a crew to instruction for a two-hour program. The adult service providers were in agreement with the Chiefs, partner with several agencies and provide information when the opportunity is available. The housing leaders were also concerned with liability and only including one service as a partner. The over-all perspective was encouraging all service providers to help the community become safer and prevent incidents before they occur. A strong CRR program can do just what the community leaders and service providers expect.

The final exploratory item involved home inspections and how to get into older adult homes to make them safer plus provide for the homeowner's independence. The MTFD administration suggested the inspection word be eliminated and insert evaluation. After learning that independence was the largest deterrent involving participation in fall prevention programs. The service provider needs to focus on keeping everyone in his or her home whenever possible. MTFD could provide home reviews with a relaxed demeanor and assure people we are not there to take them from their home. The adult services coordinators thought home inspections were

important but not at the risk of non-participation due to the perceived loss of independence. The housing managers agreed and were happy with the inspections they provide to their residents. The ability of home service providers to suggest fall prevention to future clients is key to prevention. Home service providers are invited into the home and have a unique opportunity to make the home safer. Suggestions are given to family members and clients; so all parties affected encourage compliance. MTFD should be the bridge between fall victims and the resources needed to prevent them.

The organizational implications have the potential to be positive for the Meridian Township Fire Department and the customers they serve. The staff and community can join forces and become a conjoined group that is informed and healthy. When your staff has community support, it makes the job easier and employees have a real sense of belonging. The customers and citizens will be better protected from falls and injuries if they are educated and practice prevention. When you have all the tools necessary to do your job, both the customer and the employees are better served. An information distribution program will be the key to success in fall prevention for MTFD; with continued community support, the goal of a safer community can be met. The next community risk profile could discover a reduced fall risk if programs are endorsed, and services are disseminated to the older adult population in Meridian Township.

Recommendations

The results of this study showed Meridian Township has a significant older adult fall problem. The MTFD can reduce the fall problem with the following recommendations lead by national research and local discoveries. “An older adult falls every second of every day. But less than half talk to their doctor about their fall” (Houry et al., 2015, p.A2). The process begins with

education and outreach both to service providers and older adults. The CDC has produced the information in numerous educational formats; from power point presentations to three fold pamphlets. The information needs to be presented to older adults whenever a group is assembled. Meridian Township has four to five older adult gatherings a month. These gatherings can be a great time to produce a ten-minute presentation on falls and how to prevent them. Doctors and other medical professionals can hand out literature and discuss falls during appointments and yearly reviews. The modifiable risk factors listed by the CDC in fall prevention are; lower body weakness, difficulties with gait or balance, medication interaction, postural dizziness, poor vision, foot problems, and home hazards (Houry et al., 2015). All of those risk factors can be a stimulus for fall prevention education. MTFD can promote the evidenced based programs given locally and encourage participation in exercise and stretching classes offered through CBO's.

The study of fall prevention can continue to identify gaps in resources and advocate for funding with a local focus on preventing injuries at home. MTFD can participate in Community Para-Medicine programs to prevent falls in the home setting. If paramedics can identify a subject with fall risk factors, after hospital discharge, they can modify the environment or factor to reduce or eliminate the risk. If Medicare and Medicaid will cover home modifications, the risk factors can be changed with little effect on the individual's financial ability. Money spent on prevention will come back ten-fold, with decreasing health care costs. The Community Para-Medicine program can also involve private sector partnerships to perform home modifications saving injuries and health care dollars. Along with the Community Para-Medicine program, the Meals on Wheels drivers can champion a fall prevention program. Every driver can provide each Meals on Wheels participant with fall prevention information and refer interested people to

MTFD or the local senior center for follow-up. The Community Para-Medicine employee can include a list of service providers and local agencies for additional help beyond the Para-Medicine program if the need surfaces.

The best way to promote fall prevention programs is to integrate them into current programs like Meals on Wheels and the Community Para-Medicine program. When you can get the support of an existing program, the information has a stronger base. A strong delivery system through established programs can sustain short falls in funding and attendance better than a stand-alone program. MTFD can play an important role in sustainability because they are government funded and have community support. MTFD can be considered an expert because of the high response to fall incidents and after education, fall prevention. After the community-based organizations have a clear path to pursue, the next phase is evaluation- i.e., is it working? The evaluation phase is often neglected, and the programs suffer. The evaluation phase would incorporate; a review of incidents, follow-up with the Senior Center and checking the national census data to see if falls were reduced. If awareness is improved and demand for programs is increased then the campaign is a success.

Strategies for future study and exploration involving older adult falls and related injuries might include subsequent studies. Financial planning and local sources of monetary support, to include a diversity of funding support through established programs and evidenced based classes. If the fall prevention program is a long-term project, it will take the support of community leaders and program providers to sustain growth. One class in a specific community will not support the fall prevention strategies necessary to create change. The future could contain exploration in the infrastructure of older adult programs and how to connect fall prevention on every level. The local programs can all be connected to provide a sustainable base for growth

and wellness on behalf of older adults. In summation; falls can be prevented through clinical assessments, evidence based programs, management of medication, correction of vision and the reduction of home hazards. MTFD can champion fall prevention and make a difference in older adults independence and quality of life.

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Appendix A In person interviews within their perspective offices

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Fire Chief Fredrick Cowper

Date: June 1, 2017 2.3 Hours

Questions: Interview with Fire Chief

- 1) Have you heard of Community Risk Reduction programs associated with the fire service?
 - a) Chief Cowper informed me he is the Township Emergency Manager and also the Director of Fire and Rescue Resources for the Ingham County Emergency Operations Center. In that dual role, he deals with risk management each month. He has supported several EFO students during his 19-year tenure as Meridian Township Fire Chief. Those EFO students have provided a lot of information about CRR. During the last budget year a special line item was added for CRR. Chief Cowper believes CRR is essential for fire department operations. Currently the administration is developing a plan for the annual MTFD open house. The open house at station 91 provides our citizens to see the station and staff; also they receive fire safety education.
- 2) What resources do you provide to address the growing problem of older adult falls?
 - a) The fire department refers citizens to the Senior Center to address any fall prevention programs. The department has Citizens Assistance Program (CAP), administered by EMS Training Chief Priese. The CAP provides assistance with social services and other connecting customers with other service providers. Chief Cowper did learn of an exercise program through the Meridian Township Parks Department while attending the National Health and Fitness Day for seniors. The Meridian Mall hosts the exercise

program. This program is a social experience with walking and stretching involved.

Chief Cowper discussed the possibility of the department being an informational partner to the local programs to bolster their attendance. Chief Cowper has also experienced this problem within his activities outside the role of Chief. Older fall victims often never fully recover to pre-fall standards.

3) Do you think fall prevention programs reduce older adult falls?

- a) Chief Cowper was not current on the related data, but considers all evidence-based programs useful in injury prevention. He said, “ If a program provides useful information and will reduce injuries, the department will support it.” This interviewer asked if MTFD would consider a department hosted fall prevention program, Chief Cowper told me to present my findings after my research project is complete and we could discuss the possibilities.

4) Have you heard of the fall prevention program “Remembering When”?

- a) Chief Cowper was not aware of this program offered by the National Fire Protection Association (NFPA). With research: I explained that the program partners with home nursing providers to teach older adults about fall prevention and fire safety. This program has national acceptance and is evidenced based. Chief Cowper said that could be a good program if the current classes are not effective or there is a demand for additional programs.

5) If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?

- a) Chief Cowper began with information about liability and experience's pertaining to partnerships with private businesses. The township management does not like to single out one agency and steer all clients in one direction. The township needs to support local businesses equally. Chief Cowper was concerned with liability involved with exercise programs. The Chief also mentioned several local projects that the township is hosting for the 175 Celebration (Meridian Celebrates 175 yr. anniversary). which require a special insurance rider. Additionally if the selected service has any problems, they become township problems. Chief Cowper suggested any new partnerships go through the attorney before approaching the idea.
- 6) Are home inspections a necessary part of Fall Prevention?
 - a) The Chief began with the problem of entering a home under false pretenses. If MTFD were called to a fall injury or a lift assist, we are there for a medical concern and not to inspect the home for hazards. The HIPPA protections would prevent us from listing fall victims and using their data in a different forum. This again would have to be developed with legal and administrative staff to assure compliance with current laws. Chief Cowper would again be open to delivering information to our customers that would benefit them; we just have to do it properly. The Chief is open to any function that would help our citizens live a safer and more productive life.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Battalion Chief Kenneth Phinney II

Date: June 9, 2017 1.5 Hours

Questions: Interview with Meridian Township Fire Department Battalion Chief

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. Battalion Chief Phinney has heard of the Community Risk Reduction program associated with the National Fire Academy and the Executive Fire Officer program. Chief Phinney believes a proactive approach to fire and injury reduction is crucial to the future of the fire service. Phinney described the Community Para-medicine program and how we can help our customers and citizens beyond the emergency call. The Para-medicine program can help teach fall prevention to the older adults in the fire departments service area. If we can reach the venerable people recently discharged from the hospital, before they fall, we can prevent a significant amount of falls. Most patients who were recently discharged from the hospital may be on new medication or deconditioned to a point of general weakness. These patients could be warned of dehydration and medication making them dizzy and susceptible to fall. Additionally, patients could have mobility problems and the paramedics who are involved in Para-medicine program can warn them to use the tools provided to prevent injury and falls. Phinney acknowledges our increased responses to falls and fall related injuries, and believes steps can be taken to reduce these incidents.
2. What resources do you provide to address the growing problem of older adult falls?
 - a. As a fire department Meridian Township does not provide any direct resources for fall prevention. As described above, we can do more with an active role in Community Para-medicine. The department can provide information on a range of services available to older adults that are in our service area, to prevent injuries.

MTFD does provide for no cost lift assists for fall victims and families who are challenged by moving a weak family member. The department is a bridge for services until adequate help can be acquired.

3. Do you think fall prevention programs reduce older adult falls?
 - a. Phinney did not have an adequate exposure to fall prevention programs to gauge their effectiveness. This researcher did explore what role the fire department could play in fall prevention. Phinney spoke about home reviews and all of the items associated with accident and injury prevention. Phinney explained that the department could check smoke detector for low batteries and age related problems. He stated we have a box of detectors in the storage area, if a problem is found we could replace the smoke detector immediately to make our citizens safer. MTFD could also provide a list of services provided in the area to older adults, which would make the burden of finding a current provider much less worrisome on family members.
4. Have you heard of the fall prevention program “Remembering When”?
 - a. Phinney has not heard of Remembering When, from the NFPA. This researcher explained the program and Phinney thought it could be helpful to the citizens we serve. Phinney was encouraged by the program content because it involved fire safety along with fall prevention.
5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?
 - a. This aspect of the Remembering When program could be a challenge for MTFD, according to Phinney. The department tries to stay away from only partnering

with one agency, when there are over 15 agencies in the area. Phinney thought the department could refer and inform our customers better as a single agency.

Phinney continued with, MTFD has a hard time setting specific appointments because we have to use our duty crews for those activities presently. If there were other personnel dedicated to an education and prevention program, MTFD could address those needs much easier. The Community Para-medicine program could provide the resources necessary to champion a fall prevention program in our service area, according to Phinney. Phinney ended with the possibility of a dedicated month of community risk reduction by the suppression division if a program was developed and implemented.

6. Are home inspections a necessary part of Fall Prevention?
 - a. Phinney began by an expression of redirection, the terms home inspection were to controlling and governmental. The Chief thought the name should be lessened to home assessment or evaluation. The list of items should be worded as such to make suggestions rather than demands. The opening introduction should involve, preserving their independence and the desire to keep them in their home. The personnel should have a relaxed demeanor and make the customer feel they are their supporters, rather than demanding change. MTFD can be a informational clearing house for local services and service providers, they can reduce time between needed answers and having the correct answer quickly. Phinney believes delivery is the key to success and trust with the department's customers.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Christine T. Histed – Tri-County Office on Aging Program Manager

Date: June 5, 2017 2 Hours

Questions: Interview with Senior Services Provider

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. Manager Histed stated she was not aware of the specific CRR program, but did acknowledge that local fire departments can play a critical role in directing patients to resources available to them through local Senior Centers and assistance agencies – like the Tri-County Office on aging. The agencies mission is to promote and preserve the independence and dignity of the aging population. One of the biggest programs at the agency is “Meals on Wheels”. The Meals on Wheels program delivers a hot meal to homebound seniors and coordinates community meals several times a week in different locations. The program is an excellent way to get seniors additional help because the delivery person makes contact daily.
 - b. Manager Histed is the evidence based program manager for the Tri-County agency. She coordinates the “A Matter of Balance” (MOB). fall management program. This fall prevention program is an eight-session workshop conducted by volunteer lay leaders for two hours each week in the community setting.
 - c. General description of program see Appendix E
2. What resources do you provide to address the growing problem of older adult falls?

- a. The fall prevention program with local and grant funding. The MOB program is given four to five times a year depending on funding and requests. The evidence-based programs are studied and assured to produce results if program requirements are followed. The costs are covered by local Senior Centers and grants from the Federal Agencies. This program has been in production for about 8 to 10 years according to Manager Histed. The Meals on Wheels program gives several referrals a month to the fall prevention classes. Additionally there are monthly newsletters to increase attendance. The classes are usually full a month before the program starts. Health plans will sponsor classes if there is a need shown in a local community without means to produce a class on there own. Lastly the agency has a referral system for help locating a service needed. Some of the services listed are for handy man, home nursing and housing.
3. Do you think fall prevention programs reduce older adult falls?
 - a. Manager Histed did see results since the program began, but she has only held the position for a year. The previous person did say the programs work and did see results for participants. Histed did give some additional information of attendance issues. The drop out rate is about 30% mostly due to the lack of transportation. When the classes are held in the housing community, the attendance is higher. Also there is an accelerated class that lasts 2 weeks for people who want less of a time commitment. The third class is where the exercise is begun and that usually produces the most gain. The Ti-Chi portion of the program is the most popular and produces the most results. Several national surveys have produced the evidence to maintain the program.

4. Have you heard of the fall prevention program “Remembering When”?

Histed has not heard of the Remembering When program.

5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?

- a. Manager Histed suggested we play a support role in either Meals on Wheels or have a drop in day coordinated with the fall prevention program. The Meals on Wheels could be an off duty action and the fall class presentation would be an on duty presentation. The only problem with a drop in presentation would be the duty crew gets called away for an emergency run. The prevention division maybe able to coordinate or give the presentation. The role of informing our customers and citizens about local programs and senior centers may be the best role for the fire department. The increasing older adult population is placing a real strain on resources and any help would be welcomed, according to Histed.

6. Are home inspections a necessary part of Fall Prevention?

- a. The home inspection is a critical part of post fall activity, but the fire department may not be the best fit for that service. Histed worries about the authority role the fire department plays in the community and people may fear the loss of independence if the fire department feels the person not safe at home. A non-governmental reviewer can make suggestions and connect people with services without having to worry about the look of impropriety.

Manager Histed also informed this researcher of Senior CommUnity Care. This is a program with a wide range of services. The services range from home healthcare to help with daily

chores. The program partners with Volunteers of America and PACE. PACE is Programs of All-Inclusive Care for the Elderly; it is a Nation wide organization for senior healthcare. Senior CommUnity is paid for through Medicaid, Medicare and private payments. The program is a way for people to stay in their homes and receive the care they require. This program preserves the independence the older adults demand. This program can also support caregivers and families so they can get some time away to perform other tasks. Histed thought this would be a great program for the fire department to refer people to.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Coordinator Cherie Wisdom

Date: June 7, 2017 1.75 Hours

Questions: Interview with Senior Center Coordinator

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. Coordinator Wisdom was not aware of the program, but does have the fire department deliver a fire safety program to the Community Center members twice a year. Also discussed was a smoke detector home visit sign up sheet for members who want a brief home visit for fire safety. Wisdom also said the fire department is welcome to deliver any relevant programs we feel would help the older community.
2. What resources do you provide to address the growing problem of older adult falls?
 - a. Wisdom referenced the Mission statement; "We believe that staying active is a key to physical and emotional well-being and that retirement is the time when it is

most important to have activities which are interesting and enjoyable. The Meridian Senior Center was created to serve as a township focal point where individuals or groups come together for service and activities, which enrich their quality of life and enhance their worth as individuals. The Center provides social, recreational and educational programs that offer opportunities to remain or become a vital and active part of the community” (“Mission Statement,” 2015, p.2). This statement is the guideline for programs at the Senior Center. The center provides two fall prevention programs a year coordinated through the Tri-County Office on Aging. Additional programs involve Yoga and Tai Chi, which assist in balance and core strength.

3. Do you think fall prevention programs reduce older adult falls?
 - a. Coordinator Wisdom believes if the program is taken seriously and the guidelines are followed the chances of the member falling are reduced. The strength exercises along with the balance component make the member stronger and more aware of the surroundings. The prevention program also involves vision and medication reviews to give the member more control over their world. Additionally, the focus of most programs are to keep members independent and in their homes.
4. Have you heard of the fall prevention program “Remembering When”?
 - a. Wisdom has not heard of that program, but would welcome and addition to her curriculum that would help members. This researcher explained the program and it mirrored the Mater Balance class offered by the Center. The added fire safety

portion would take additional steps to save members lives and protect the community.

5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?
 - a. Wisdom discussed the local strength and fitness classes coupled with fall prevention program would cover current members needs. She thought the fire department could be helpful with information distribution for programs offered in the area. If one of our customers has a problem or concern the department members could provide phone numbers, handout flyers on classes or other helpful agencies. Wisdom also discussed the fire department attending any of the luncheons at the Center to provide “expert” testimony on emergencies and what help is available if 911 can’t help. Additionally she reintegrated that the department members would be excellent Meals on Wheels drivers.
6. Are home inspections a necessary part of Fall Prevention?
 - a. Wisdom told this researcher about the critical matter of independence and a feeling that the fire department might be considered “governmental” not wanting people to be in there on homes. The feeling of being taken from their home is one of the member’s biggest fears. The members have told stories of friends with minor injuries never returning to their home again because the healthcare system would not provide the necessary tools to go home. Wisdom explained that it would take a couple of exposures to the fire department for the trust to begin. Wisdom has been with the center for nine years and she has built bonds that make her knowledgeable in this area. The home inspection aspect of fall prevention is a

tough aspect to sell and Wisdom did not feel it was crucial to success. If an inspection program is offered it would be by invitation only and the people involved would have to understand their role as helping not telling.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Connie Nash General Manager and Cathleen Arnold Assistant General Manager

Date: May 25, 2017 1.75 Hours

Questions: Interview with Senior Housing Executives

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. The management team at the Marquette Retirement and Senior living facility was not aware of the program involving community risk. The team was aware of programs that involve certain governmental agencies and their goal to make communities safer and be proactive. They were well versed on the Tri-County Office on Aging and have hosted seminars produced by that agency. The complex offers a wide ranging list of activities and provides two meals a day for residents. The complex is an independent living facility and residents are encouraged to seek the activities that make the complex enjoyable for them.
2. What resources do you provide to address the growing problem of older adult falls?
 - a. The Marquette does not offer any official fall prevention programs, but does have an exercise activity each day and several can be linked to fall prevention. Examples they offer are; flex and stretch, chair dancing, exercise group and a walking program to promote wellness and social interaction. In reviewing the

programs several components of fall prevention can be found. One concern with indorsed exercise classes would be a liability issue; the activities are performed at the resident's own risk at the Marquette.

3. Do you think fall prevention programs reduce older adult falls?
 - a. Nash and Arnold believe that evidence based programs have there place in fall prevention but the managements stance of liability over rules the narrow focus on fall prevention. Nash informed this researcher of the position of enrichment coordinator. This person is responsible for setting a schedule and assuring compliance with rules for activities. The activities are preformed to each resident's ability and no up coaching is allow. Some classes may encourage people to extend outside their comfort zone and that's when people get hurt. The activities are well researched and produce very little problems for management.
4. Have you heard of the fall prevention program "Remembering When"?
 - a. The team has not heard of the Remembering When program. They are aware of the Matter Of Balance Program offered locally.
5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?
 - a. The Marquette does offer to private nursing sources for residents to use but any service can work with clients when approved by management. The two local services in house are Great Lakes and Tender Heart Home Care. These services provide residents personalized home care. The services offered involve daily living chores and assistance whenever the client needs help. These services do provide certain fall prevention, but the interaction in minimal. Nash and Arnold

did review their interactions with the providers and they were positive, but the team thought governmental service pairing with private nursing may pose a risk to both parties. With so many providers in home health care it may be difficult to pair with just one.

6. Are home inspections a necessary part of Fall Prevention?

- a. Inspections were discussed and the theme of independence and privacy were paramount to management. The company does employ a maintenance staff, which enters an apartment whenever there is a problem, but unless a danger is imminent the staff try's to just fix what's wrong, not remove and rearrange furniture. There is a yearly inspection, but that is for maintenance and appliance updates. The residents enjoy the freedom to have their own furniture and personal belongings and management does not infringe on that. The home health aids can move items if the resident or family requests due to a trip hazard, but a fall prevention inspection may be too intrusive. Wellness checks are performed if a resident has not been down for meals, but most residents enjoy their independence.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Brenda Snow Service Coordinator

Date: June 5, 2017 1.50 hrs

Questions: Interview with Senior Apartment Services Coordinator- 32 Buildings

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. Coordinator Snow was not aware of the fire departments role in reducing community risk. When the program was explained Snow related to her position as service and activity director. Snow is responsible for planning and executing programs that will assist her residents with quality of life. Snow explained the apartments are an United States Department of Housing and Urban Development (HUD). 1st housing community. That means that the complex is partially fund with government grants and residents rent payments. The amount of government support directly relates to the amount of classes and programs provided. The complex is named Grange Acres. The complex has hosted several of the Tri-County programs that manager Histed spoke of. Snow explained that transportation is one of the biggest challenges she faces with trying to provide residents with classes off campus. The complex has a large community room, which is perfect for hosting programs. Past programs have included the fall prevention program and a diabetes education class.
2. What resources do you provide to address the growing problem of older adult falls?
 - a. As listed above, the complex works with the Tri-County Office on Aging to bring evidenced based programs to the local residents and surrounding community. The classes are open to anyone in the Haslett area. When funds are available through HUD or local grants the complex sends out notices to the Senior Center and Meals on Wheels participants to alert them of the opportunity for program participation. Grange Acres has recently received funding for a community wide emergency pendant program. The residents are issued an emergency pendant

when they arrive for occupancy. The pendant, when activated, will summons emergency services to the location of the resident. The pendant program will work anywhere in the complex, providing a sense of security to leave the apartment and become social. The program is working well and it is used several times a month. The pendant program assures emergency services has a quick response and has reducing the time it takes get the resident off the ground.

3. Do you think fall prevention programs reduce older adult falls?

- a. The pendant program has been working for over a year now, and residents have praised the quick response they receive when they have fallen. The fall prevention program given last year had mixed results. The resident did not continue with the exercise and prescribed items to reduce falls. After the class the motivation was lost, a follow up program of weekly Tia Chi before the community meal provided by Meals on Wheels, may be a solution to that result. Snow explained also about independence and residents not wanting to be put in a nursing home as another conflict with fall prevention home inspections, which is part of fall prevention. Snow believes that education is the best attempt to reduce falls in older adults.

4. Have you heard of the fall prevention program “Remembering When”?

- a. Snow has not heard of the Remembering When program. This researcher explained the program and Snow was receptive to the fire prevention portion of the program. Snow offered the community room or the community luncheon as opportunity to educate residents on fire safety. We discussed the fire victims of the past, which there was two, and how important smoking safety is in the

complex is. Snow thought if the fire department provided a lunch and learn the turnout would be worth the effort.

5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?

a. Snow again pushed education and information delivery. The residents due have private nursing providers coming in weekly or daily. If the fire department was to partner with a local home nursing provider, they should use one that as a relationship with the community all ready. To provide another class might not be the best answer for the fire department, the management of the complex will have to approve any classes. The management of Grange Acres likes to stay neutral when it comes to private industry coming into the complex.

6. Are home inspections a necessary part of Fall Prevention?

a. Home inspections are the least important component of the program according to Snow. The areas were addressed before, like fear of being taken from their home and loss of independence. If the inspections or surveys can be address through a relaxed atmosphere they might work. For example if a Meals on Wheels driver suggests the person move an area rug it would be less intensive than a fire department in full uniform.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Amy Taylor-Adams Community Manager, Danielle Tigner Leasing Consultant

Date: June 5, 2017 1.5 Hours

Questions: Interview with Senior Apartment- Independent living- 1 Building

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. The management team is aware of the Meridian Township yearly rental inspections along with all of the requirements the Township Building Department codes. The team was not aware of the fire departments prevention activities beyond the inspections. The Meridian Township Fire Inspector does make yearly visits to check on the fire alarm system. This researcher explained that fall prevention has become a focus point of study for the fire department and the team welcomed any input the department could provide.
2. What resources do you provide to address the growing problem of older adult falls?
 - a. The complex offers the Tri-County Office on Aging Matter of Balance when offered and provides limited transportation to off campus programs. The on campus classes and programs are resident driven. The offerings are chair yoga, diabetes education and a walking club. The programs have good attendance and are led by residents. The team did notice an improved outlook on senior living when residents are involved in group activities and programs. The complex requires a wavier of liability to participant in classes and has not received any push back from residents.
3. Do you think fall prevention programs reduce older adult falls?
 - a. As mentioned above with education and exercise the residents are better prepared to prevent a fall. The Matter of Balance class was offered in the community room two years ago with good attendance and the residents who participated in the program seemed to be less afraid to be mobile. The team interacts with residents

daily and can see the problems they face regarding being active. Some residents have mobility helpers, like walkers, and those tools seem to help maintain the activity the resident desires. Fall programs and the related exercise seem to help our residents, according to Taylor-Adams.

4. Have you heard of the fall prevention program “Remembering When”?
 - a. No there has been no literature provided on the fall program Remembering When. The Matter of Balance class has been advantageous in the past when hosted at the building.
5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?
 - a. At Marsh Pointe we strive for independence and privacy, our residents can have any nursing provider or home care necessary for their health and wellness. We do offer a list of providers but do not indorse any single company. The fire department should be cautious of being a single source provider for one prevention program, because if it fails, the private company could have a bad reputation associated with the failure. Then because of the partnership the department may be less accepted and reduce community support. Caution and research is paramount in private business partnerships, according to Tigner.
6. Are home inspections a necessary part of Fall Prevention?
 - a. Since our building is all rentals, inspections are a part of the leasing agreement. The inspections are for building supplied items, like carpet and appliances, if other observations are made they are safety related only. As a management company we value the residents privacy and ability to self regulate. The

inspections are not for furniture placement or throw rug removal. The fall prevention items such as grab bars and pull stations are in every unit, and are checked on during each inspection. Additionally there are Michigan State Building rules (MISDA). that show what items are necessary in senior housing and list inspection requirements. So to preserve the independence and privacy we follow the rules and guidelines from the state, according to Taylor-Adams.

Research Project: Using CRR to reduce older adult falls in Meridian Township

Interview performed by Captain M. Walters

Interviewee: Amanda McClain Business Manager/ Care Coordinator

Date: June 6 2017 2.0 Hours

Questions: Interview home nursing and services manager

1. Have you heard of Community Risk Reduction programs associated with the fire service?
 - a. Manager McClain has heard of the fire departments prevention division, but is unclear on the involvement with community risk reduction. This researcher explained the basis of community risk and what the department is doing to help the community be better prepared for problems. McClain has been in home care for 18 years and has seen a lot of improvement in senior care and injury prevention over that period of time. McClain performs the patient assessments intakes for Cyprus Home Care. This company provides skilled home care for any age customer that requires assistance in their home. The number one goal of home care is to keep the customer in their home and secure their independence with assistance from trained professionals. McClain selects caregivers as if they

were caring for a family member; the hiring process involves an 80-question interview along with a thorough background check. After approval, the employee is personally selected to provide care to one of the company's clients. McClain stated; we reduce our risk by hiring the right people for the job and educating them with the tools they need in skilled home care.

2. What resources do you provide to address the growing problem of older adult falls?
 - a. McClain explained that falls are a large part of the home care injury prevention services they provide. The home providers escort the clients when a fall is possible; like showering and transferring from mobility assistance device to bed. The intake of new customers provides a home visit for the intake coordinator so the care that's required can be tailored to the client. This might involve asking to clear hallways of obstructions or the installation of grab bars. This step is advantageous to fall prevention because it will give increased safety to the client and caregiver. The caregivers champion the use of mobility devices, such as walkers and canes, which reduced the chance of a fall. Fall prevention is a large part of home care.
3. Do you think fall prevention programs reduce older adult falls?
 - a. Fall prevention classes are only one step in the fall matrix. To prevent falls all aspects of prevention are necessary, according to McClain. The classes set the basic education and begin prevention but compliance is a problem after the program is complete. She has seen good things happen after a class but the issue is maintaining the exercise aspect or using the mobility device. McClain also has witnessed dehydration as a cause of falls, often effecting older adults. The lack of

movement and poor hydration the body becomes weak and susceptible to falls.

When working with clients, the provider must insure compliance with all aspects of care.

4. Have you heard of the fall prevention program “Remembering When”?
 - a. McClain has not heard of that program, but she is aware of Matter of Balance classes and the YMCA program Moving For Better Balance. Both of those evidence-based programs are offered locally and have good reviews. McClain does not endorse either class, but provides information when necessary. The home care providers at Cypress Home Care do work with clients on range of motion and encourage supervised movement.
5. If MTFD were to partner with local home nursing providers for fall prevention programs, what do you see as the role of the fire department?
 - a. McClain thought that ample local programs are offered and provide enough space for everyone who wants to participate. The better focus for the fire department may be through volunteering with Meals on Wheels or giving informative seminars to local senior groups. McClain did not see any issues with a partnership, but did suggest partnering with all local providers to disseminate fall prevention information equally. If the department developed lists of providers for services that would be a better use of their time.
6. Are home inspections a necessary part of Fall Prevention?
 - a. Home inspections are a hard item to sell to older adults, in her experience, stated McClain. As stated above Cypress Home Care does suggest movement of certain items that the staff might have conflict with then moving the client around the

home. The client may resist change but with education and family support the suggestion is usually accepted. The idea of an “inspection” is governmental and hard to sell, that implies required compliance. McClain has learned that suggestions and ideas are better received, than demands. McClain has a lot of experience dealing with families and most groups are seeking answers for assistance with their loved one. If the fire department were a neutral information provider, that service would be well received.

Appendix B**A Matter Of Balance Fall Prevention Program****Evidence-Based Falls Management Program for Older Adults****Program****Program Synopsis General description of program:**

A Matter of Balance (MOB) acknowledges the risk of falling but emphasizes practical coping strategies to reduce this fear. These include: Promoting a view of falls and fear of falling as controllable Setting realistic goals for increasing activity Changing the environment to reduce fall risk factors Promoting exercise to increase strength and balance.

The workshop is conducted over eight sessions, meeting weekly or twice weekly for two hours per session. Volunteer lay leaders called coaches lead meetings. A Master Trainer is responsible for teaching the Matter of Balance curriculum to the coaches, providing them with guidance, a coach observation visit, and support as they lead the Matter of Balance classes. The Master Trainer may arrange a Guest Healthcare Professional visit to the community class.

Program goal

The program's goal is to reduce fear of falling, stop the fear of falling cycle, and increase activity levels among community-dwelling older adults.

Reasoning behind the program design and elements:

Studies indicate that up to half of community dwelling older adults experience fear of falling

- 1) A majority of falls occurs during routine activities.
- 2) Just one issue usually does not cause falls.
- 3) Large portions of falls are preventable.

- 4) Being inactive results in loss of muscle strength and balance. It can also compromise social interaction and increase the risk for isolation, depression, and anxiety.
- 5) Fear of falling can actually contribute to falling.
- 6) MOB acknowledges the risk of falling but emphasizes practical coping strategies to reduce this concern. Participants learn to view falls and fear of falling as controllable and set realistic goals for increasing activity.
- 7) Participants also find ways to change the environment to reduce fall risk factors and learn simple exercises to increase strength and balance.
- 8) The group format provides an opportunity for people with a common problem to learn from each other and to help each other deal with the shared problem of fear of falling.

Target population

- 1) 60 or older, ambulatory, able to problem-solve
- 2) Concerned about falls
- 3) Interested in improving flexibility, balance, and strength

Essential program components and activities

- 1) Group discussion
- 2) Problem-solving
- 3) Skill building
- 4) Assertiveness training
- 5) Exercise training
- 6) Sharing practical solutions
- 7) Cognitive restructuring—learning to shift from negative to positive thinking patterns or thinking about something in a different way.

Length/Timeframe of program

- 1) Eight two-hour sessions

Recommended class size

- 1) 8 - 12 participants (minimum of 8, maximum of 14).

Desired outcomes

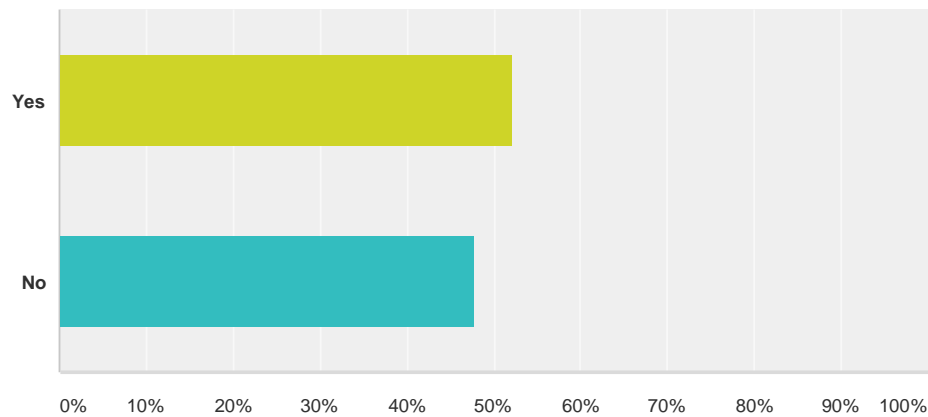
- 1) View falls and fear of falling as controllable
- 2) Set realistic goals for increasing activity
- 3) Change participants' environment to reduce fall risk factors
- 4) Increase strength and balance through exercise

Measures and evaluation activities

1. Initial survey (given during the first class). with questions regarding falls management, exercise levels, and background information.
2. Last class survey; repeat of questions regarding falls management and exercise levels.
3. Last class evaluation with questions concerning comfort in talking about fear of falling, changes made to environment, comfort in increasing activity levels, plans to increase activity levels, and background information.
4. Online data management services (attendance, pre and post surveys and class evaluation) are available through Senior Services in Michigan.

Q1 Have you heard of Community Risk
Reduction programs associated with the fire service?

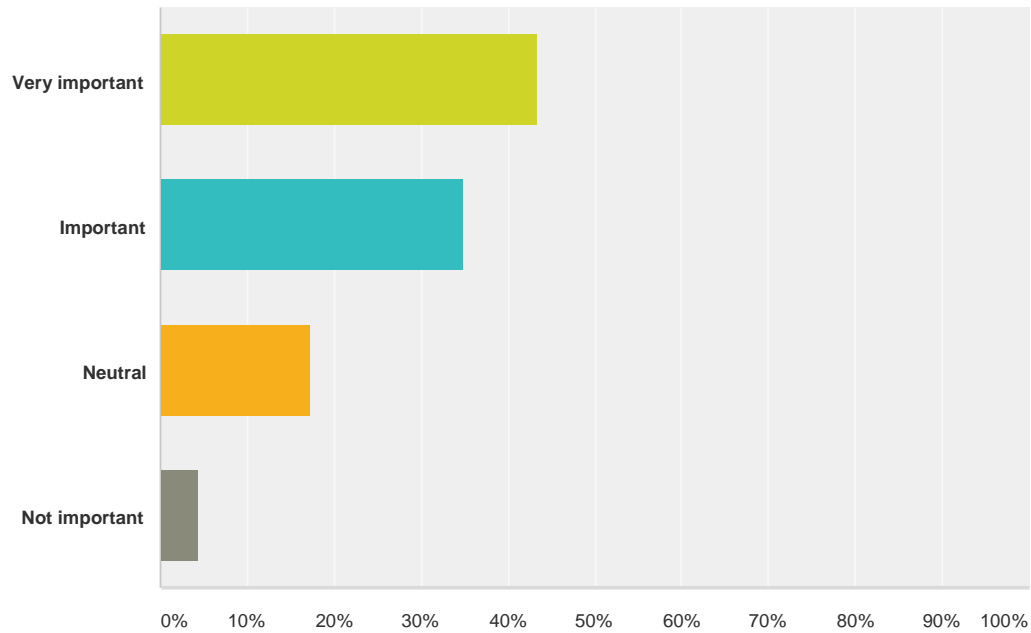
Answered: 23 Skipped: 0



Answer Choices	Responses	
Yes	52.17%	12
No	47.83%	11
Total	23	

Q2 How important is prevention activities to the suppression division?

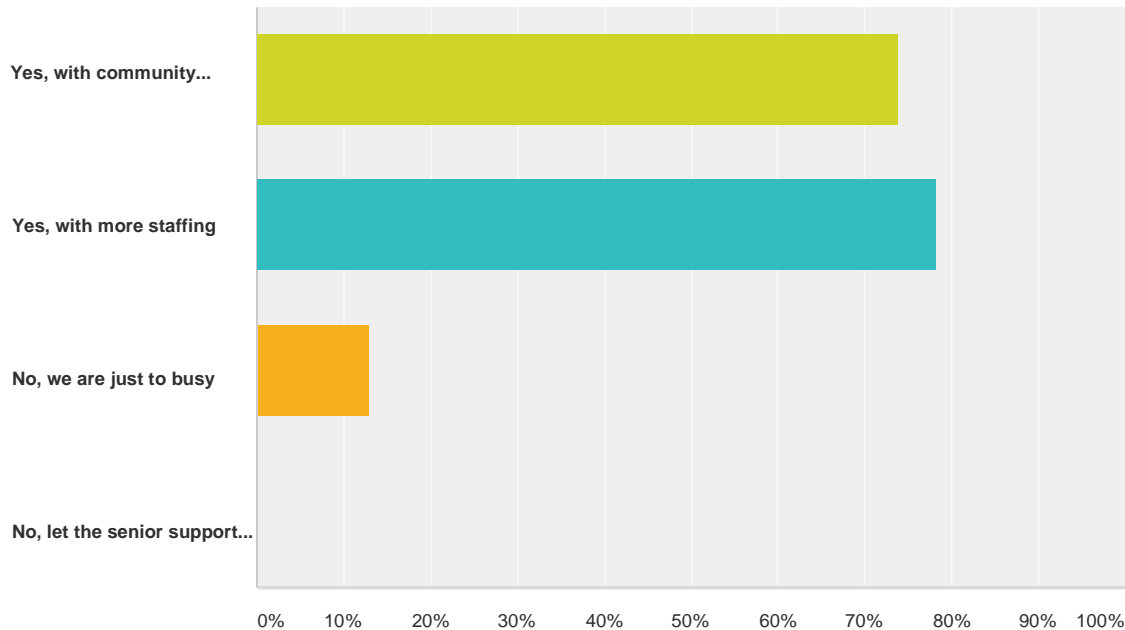
Answered: 23 Skipped: 0



Answer Choices	Responses	
Very important	43.48%	10
Important	34.78%	8
Neutral	17.39%	4
Not important	4.35%	1
Total		23

Q3 Do you think the suppression staff can prevent senior falls and associated injuries with a community education program? (you can choose more than 1).

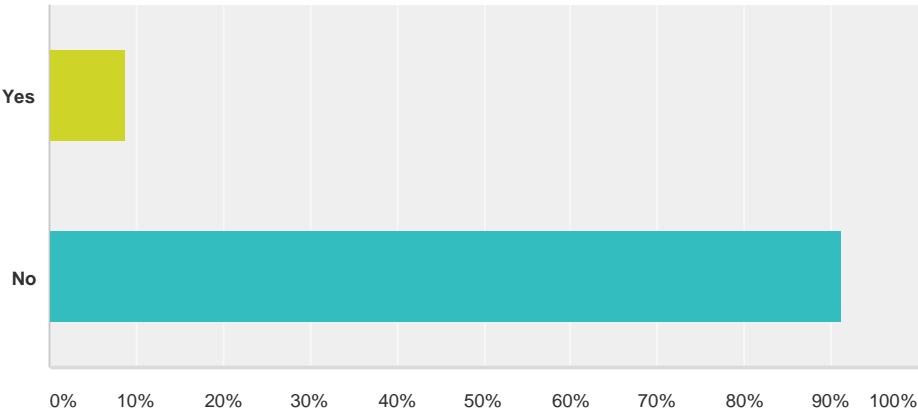
Answered: 23 Skipped: 0



Answer Choices	Responses	
Yes, with community partners	73.91%	17
Yes, with more staffing	78.26%	18
No, we are just to busy	13.04%	3
No, let the senior support programs do it without us	0.00%	0
Total Respondents: 23		

Q4 Have you heard of the fall prevention program called “Remembering When”?

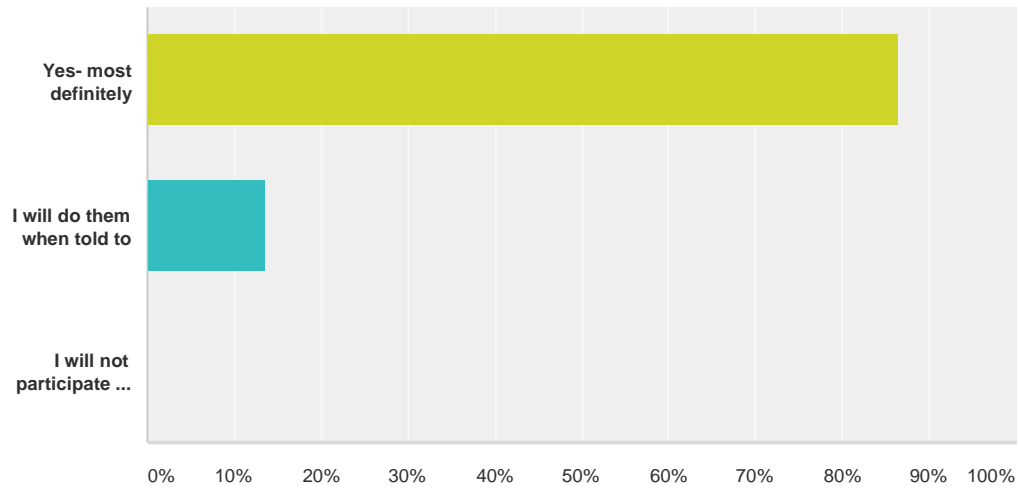
Answered: 23 Skipped: 0



Answer Choices	Responses	
Yes	8.70%	2
No	91.30%	21
Total		23

Q5 Would you be willing to perform a quick home safety inspection after a customer returns home after a fall with an injury?

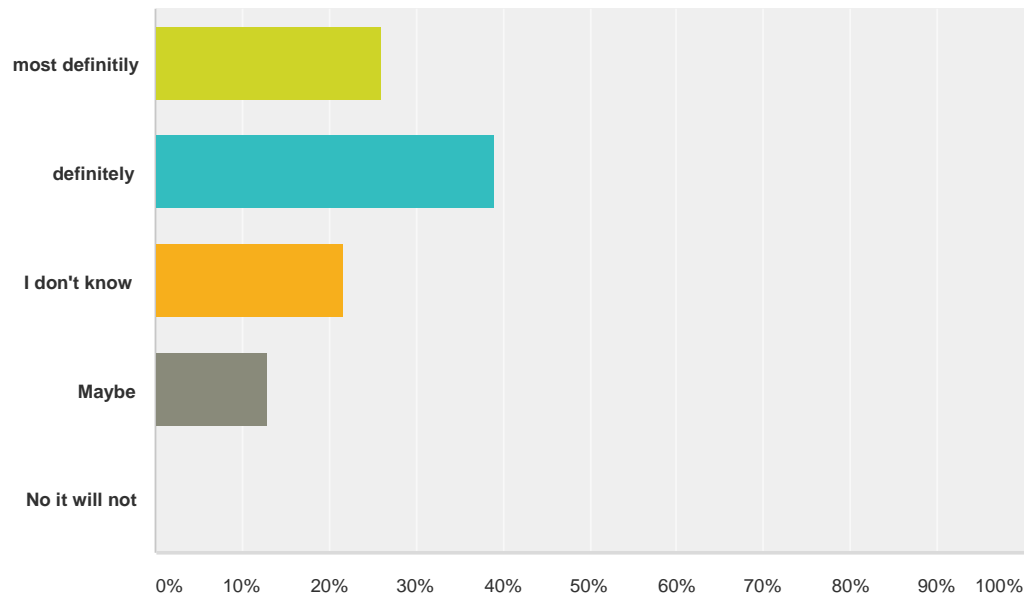
Answered: 22 Skipped: 1



Answer Choices	Responses	
Yes- most definitely	86.36%	19
I will do them when told to	13.64%	3
I will not participate in the home inspection program	0.00%	0
Total		22

Q6 Meridian Fire responds to the average of 4 fall-related calls per day, do you think a fall prevention program would help reduce the number of non-transport calls and prevent injuries?

Answered: 23 Skipped: 0



Answer Choices	Responses	
Most definitely	26.09%	6
Definitely	39.13%	9
I don't know	21.74%	5
Maybe	13.04%	3
No it will not	0.00%	0
Total		23

Appendix D**Park General Survey**

Park Survey 17 responses

1. Have you experienced a fall in the last year?
 - a. YES- 8 NO- 9
2. Did you report the fall to anyone?
 - a. NO 2 YES 4
3. Are you aware of any programs in the community to reduce your risk of falling?
 - a. Mall exercise group- 4 b. Matter of Balance- 7 c. Other- 3
4. How aware are you on strategies to safe proof your home?
 - a. No- 3 b. Yes- 10- handrails, remove rugs, lighting, grab bars
5. Where would you go to get information of falls and fall related injuries?
 - a. Senior Center- 9 b. Internet- 3 c. other- church and doctor

Park interviews conducted at Senior Fitness Day in Wonch Park Meridian Township

May 31 2017 National Senior Health and Fitness Day