IDENTIFYING SERVICE BRIDGES BETWEEN NORMAL SERVICE DELIVERY AND TIMES OF SERVICE DELIVERY INTERRUPTION

Leading Community Risk Reduction

Elderly Wellness Planning: Intervention When Daily Support Services are Interrupted

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Certification Statement

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

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Abstract:

Home health care and support services have become an increasingly vital component of our senior populations’ daily lives. What happens when support services are interrupted for short periods of time, at levels which don’t reach the minimum threshold necessary to activate the opening of emergency shelters? The problem is that the Springfield Fire Department has not communicated with our elderly population, or the providers of these support services, in order to understand what happens when service is interrupted due to atypical events. The purpose of this research will be to identify whether or not a problem exists, the scope of the potential problem and whether there is a need to create a risk reduction plan to facilitate intervention with the Springfield Fire Department being an integral partner. Descriptive research will be utilized to answer: Is there a problem? What engineered safety nets already exist? Who are the potential participants, service providers and target group? What are the needs of the target group? How do we communicate with the identified target group? Is a risk reduction plan necessary? Descriptive research procedures included interviews, a questionnaire and in-depth statistical analysis. These procedures defined the existing current conditions. The results were compared and contrasted against the
findings of others. The final research product recommendations were to continue development of a risk reduction plan specific to the community for this identified problem. The scope of the target audience could be narrowed by categorized prioritization in order to facilitate realistic program implementation in areas with greater populations. The recommendations also offered suggestions developed through lessons learned to ease the research process for others.
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Introduction:
Home health care and support services have become an increasingly vital component of our senior populations’ daily lives. Our senior population is living longer and spending more years in their homes with the assistance of the agencies that provide these support services. What happens when support services are interrupted for short periods of time, at levels which don’t reach the minimum threshold necessary to activate the opening of emergency shelters? The problem is that the Springfield Fire Department has not communicated with our elderly population, or the providers of these support services, in order to understand what happens when service is interrupted. The purpose of this research will be to identify whether or not a problem exists, the scope of the potential problem and whether there is a need to create a risk reduction plan to facilitate intervention by the Springfield Fire Department. Descriptive research will be utilized to answer: Is there a problem? What engineered safety nets already exist? Who are the potential participants of an intervening program, the service providers and the target group? What are the needs of the target group? How do we communicate with the identified target group? Is a risk reduction plan necessary?
Background and Significance:

Leading community risk reduction is about more than numbers and demographics. Alan Brunicini captured the attention of the fire service with his simple philosophy; “Be nice...What can we do for Mrs. Smith” (Brunicini, 1996). Conducting risk analysis necessitates the exploration of ideas which go beyond the norm and extend the scope of our current service. Community risk reduction must be done in the spirit of not merely changing the norm or adding a greater focus on customer service, but is about effecting a change in the culture as well as how we identify ourselves. The Springfield Fire Department offers the normal menu of services: fire suppression, EMS, rescue, technical rescue and Haz-Mat to the operations and decontamination level. We serve as a regional resource for Haz-Mat decontamination and technical rescue responses. We work with the Vermont Department of Public Safety to provide code enforcement. We have a public education program but it has historically been a public relations tool rather than providing real education. This program is currently under review to find ways to improve the educational component. Programs which expand service and meet the needs of our community do not always have to be a large cost to the budget; service can be something as simple as installing a smoke detector or changing a detector battery. The value of the deed is not measured by the cost of the program. It is why a
A program to ease the anxieties of our “at need” population when they experience an interruption of service falls into the same category as “being nice” and “looking after Mrs. Smith”.

Springfield is located in the foothills of the Green Mountains in the southeastern part of Vermont. The 49.5 square mile area is bordered to the east by the Connecticut River. The area is known for its continuous rugged hills that are separated by ravines and tributaries to the Black River. The area experiences all four climate seasons. Each season creates its own challenges for the Springfield Fire Department, local public service utilities and those who deliver home health care and support services. Average yearly snowfall exceeds 98 inches (Flint 2007), attracting a large number of tourists to the area’s ski resorts. The hard winter is followed by a thaw that is locally referred to as a fifth season, mud season. Back roads and passages may become extremely unstable during this three to five week period each year. Summer is seasonable though susceptible to flash flooding due to the topography. Autumn in Vermont is widely known for its foliage and spectacular color; foliage season brings a high volume of tourists to the area. The climate and topography of the area present a challenge to all service delivery systems. The utility companies experience a steady battle to maintain their system’s continuity. Power
outages due to snow, ice, high wind and falling trees (SFD data base) are common, especially in isolated areas. Unscheduled school closings average five to seven days each year.

Interstate 91 is the main north/south thruway in western New England. The section of I-91 that runs through the Springfield Fire Department’s response area is shutdown due to extreme hazardous conditions on an average of three times per year (Vermont State Police). Each of these types of events will typically have a direct affect on the delivery of services to the “at need” population. Programs which are heavily dependant on volunteer staffing are all impacted by impassable roads, deep snow and power outages.

As a long-term EMS provider I have observed that during times of prolonged power outages, winter storms and impassable roads an increase in home-based emergency responses seem to occur. Is there an actual increase in emergency responses? What is the typical interruption of service and what plans already exist to reduce its impact? Is there a connection, direct or indirect, between the increase in emergencies and the interruption of services?

This research problem is related to the United States Fire Administration’s operational objectives because it responds to
emerging issues in relation to an identified hazard within our community. The introduction of the components of Risk Reduction Planning applied to the research supports the intent of the operational objectives.

The significance of this paper is centered in the use of descriptive research to define the current situation as it relates to interrupted home health care and support services. This research explores the current conditions and the causation of the conditions. It seeks answers to; who are our “at need” population, what are their needs, and what realistic and appropriate interventions can the Springfield Fire Department and their partnering agencies supply.

Literature Review:

Intervention during interrupted service periods is not a subject that offered title specific literature or documentation. Breaking down the components of the problem and starting to discuss the hypothesized problem with key people gave a direction for readings. The literature review has been continuous as the research has evolved.

Each year more than twenty-two thousand agencies nationwide provide home care services to more than two million people with
physical disabilities, chronic health problems, dementia or terminal illnesses. As the population ages the number of home care agencies will continue to grow. “We’re living longer and healthier lives than ever before in human history. However, if the time comes when help is needed, questions about living arrangements that include assistance of care often arise. Because so many seniors wish to remain in the home and community that holds a lifetime of memories, a wide variety of home care services have evolved in recent years to make this feasible” (Rose & White, pg. 2). Home care and support services have evolved greatly from their mid 1960’s origin. Visiting Nurse, Hospice Care, Meals on Wheels, and Medicare/Medicaid Insurance supported oxygen and medication deliveries are commonly used home services today. Home fuel assistance, energy efficiency audits as well as a myriad of social based activities, including senior centers, adult daycare and other volunteer activities, are in place to support our aging population’s desire to stay at home longer (Cason, 2001).

The information learned from the literature review gave very good insight into the elderly population target group; the challenges that the elderly population faces in order to continue to live at home are often daunting. The exploration into human maturation and the correlating emotions, as well as
the documented personal struggles, developed my cognitive knowledge of the subject, but also reached the affective domain. Many of the authors wrote from the inspiration of their own experiences, citing the need to share what they learned as reason for their writing. In *When Autumn Comes* (Bennett, 2004) the author defined the role of the Hospice volunteer as a caregiver who allows their patient to die with dignity while providing compassionate care to both the patient and their family. Echoing throughout this book was the dedication and commitment of these care providers.

In *Circles of Care* (Ann Cason, 2001) the author identified some of the difficult behaviors that caregivers face with our elder population. “The loss of memory per se is not the problem. What creates confusion is the disconnection. When loss of memory disconnects a person from outer relationships and from trust in one’s inner strength, then difficulties arise.” (Cason 2001, pg.16-17) Confusion was described as a person working from two levels. One level is the person’s basic being, which is expressed through longing; for his/her past life, for all the things one has lost, for feelings of being grounded and connected. The second level is one’s fear. Fear of the unconnected present and an uncertain future. Cason wrote of the serious mood swings that afflict many elders. The slightest hint
of rejection can trigger a retreat from the real world into a hallucinatory world of dreams. Other identified behaviors that were presented were mistrust, over controlling behavior, criticizing, becoming demanding and combative behavior. The insight into these behavioral patterns shows what potential obstacles there will be to creating the trust needed to establish a voluntary intervention contact list (Cason, 2001).

In The Aging Sourcebook (D. Harris, F. Ruffner, pg. 183,) the author described aging on a physical-environmental plane. He felt that as you get older you are less tolerant of long term exposure to heat or cold. He stated that some older people develop accidental hypothermia, which is a drop in internal body temperature that can be fatal. Heat exhaustion due to the build-up of body heat is also a major concern, as is dehydration. It is important that the criteria used to judge cold or warmth for the elderly is not the same as that which is used for younger people. A short interruption to normal heating or cooling can have a far greater impact on the elderly population than on others. “The elderly notice a half degree difference in temperature...to be comfortable in comparison to a much broader range in other adults” (D. Kausler, B. Kausler, pg. 307). The fear felt by the elderly in relation to their environment and personal safety is a major concern. “The fear of crime can be as
harmful as the crime itself. Experiencing fear over a long period of time can be both mentally and physically harmful” (Harris, pg.183). They opined that any element of change in the physical environment or routine can lead to fear and anxiety (D. Kausler, B. Kausler, 1996). The author gave many examples of the complexity of the relationship between the elderly and their physical and emotional environment.

What the elderly perceive as their place within society, identified as the sociological adaptation of the elderly during maturation, has been the subject of many studies. These studies have been the impetus for many federal programs throughout the years. Many of these implemented programs have created task specific service groups (R. Manheimer, 1994). Each service group is a potential partner for this proposed intervention program. Some of the more contemporary thoughts on aging and our society add further insight into the needs of the elderly.

Many of the earlier thoughts on aging stemmed from a 1950’s study of the elderly living in the Kansas City area. The study led to what was known as the “disengagement theory”. Researchers found that elderly adults commonly withdrew from their previous social roles and activities, including their involvement with other people. In effect, their self
preoccupation produced social “disengagement”. It was theorized at the time that society expected elderly adults to show such individual disengagement, and demonstrated this expectancy by withdrawing its interest in elderly people. Elderly adults who succeeded in conforming to the disengagement expected of them by society were viewed as being more satisfied with their lives than elderly adults who continued to strive for social engagement. Disengagement may have been common in the 1950’s when there was relatively little concern about the financial and psychological welfare of elderly people. This study brought attention to the societal deficiency in the treatment of our elderly, and a new societal conscience developed. The trend evolved to support the school of thought that keeping active is the most effective way of combating the adverse effects of aging (D. Kausler, B. Kausler, 1996).

Another theory is that of the “life course”, which defines typical points of maturation; one goes to school at a certain age, graduates at a certain age, gets married and settles down at a certain age, etc. However, the course of life is neither simple nor rigidly prescribed. For example, various sub-cultures (whether based on gender, social class, ethnicity, race or region) tend to develop unique ideas concerning the timing of the life course (R. Manheimer, 1994). Manheimer adds insight
into the aging individual and the complexities of their decision making process relative to the life course. "As people grow older, their accumulated decisions about various life course options produce increased differentiation among them, although very late in life options may diminish somewhat because of social or physical aging. The older population is much more differentiated than the young" (R. Manheimer, pg. 97). Societal ambivalence toward the elderly was depicted as "People seem to dislike both the idea of aging and the people who experience it. This is true throughout the life cycle and the dislike seems to result from the public’s association of the aging with unpleasant outcomes such as illness, unattractiveness, and inability. On the other hand, people seem to like the idea of wisdom, warmth and goodness which increase with age" (R. Manheimer, pg. 103).

The Older Americans Almanac: a reference work on seniors in the United States (R. Manheimer, 1994) traces the governmental progression of intervention and support programs that assist our elderly population. "The 1965 Older Americans Act was the most important piece of legislation affecting older adults in U.S. history. But the act, like all policy development, had historical precedents and was part of a dynamic process. Its passage was the result of people interacting with policy and
decision makers in and out of government. Aging policy was developed in an arena filled with many pressures as individuals and groups worked to find resources to fulfill the expectations for the elderly in American Society” (Manheimer, Chap. 7).

In Successful Aging (Rowe & Kahn, 1998) the subject of loneliness and socialization is addressed by stating; “People who are more connected with others and who have social and emotional support live longer...Loneliness breeds illness and early death” (pg 156).

Many attempts are being made to overcome the problems of aging while still maintaining an acceptable quality of life with dignity. These efforts are providing some of the most dynamic and exciting areas of medical care. Part of this medical emphasis to maintain our elderly in their homes longer has led to the development of programs of assistance. One obstacle, perhaps the greatest obstacle, to high quality, efficient and humane care for older people, is the limited funding available at the local government level. The issue of coordination of services is being approached from different directions, with various experiments, in an effort to bring together social care workers and general practitioners in order to extend health promotion through collaborative work. The emphasis on supported,
assisted living will ultimately expand as the American population ages. The “Baby Boomers” are well versed in the workings of the political system, and will become increasingly politically involved in the effort to expand governmental support for related services which will meet their future needs (J. Gallo, 1999).

In *Customer Service for the Fire Service* (A. Brunicini, 1996) the author wrote of the value of customer service and its simple origin; starting with being nice. He stressed the importance of the small things, and being a community minded fire service. He talks of the importance of always being cognizant of our customers, and of those customers’s role in a strong fire service. The significance of this reading relative to leading community risk reduction and this research is the emphasis on customer service and meeting the needs of customers as we evolve.

**Procedures:**

The question of whether a problem exists was the first issue addressed. A meeting of key people within the Springfield Fire Department was held to discuss interrupted service and its possible effects on emergency response. Since we are a small organization it was not feasible to form a specific committee to
research this, so this topic became part of the monthly officers meeting agenda. An overview of the hypothesized problem was introduced to the group for discussion. Input was gathered relative to methods that could determine whether a problem exists, and to further identify the scope of the problem if one does exist. In addition, local service providers and potential partners were identified and recorded through a brainstorming process. The brainstorming technique was utilized in order to expand the creative discussion process.

The brainstorming process followed a standard format. Informal conversation and fire fighter jargon readily served as the warm-up requisite to initialize the group process. An overview of the brainstorming process was reviewed, with stress put on the importance of participation. The group was reminded of the concepts of free thought and quantity versus quality of ideas. As plateaus were reached, the discussion was redirected to stimulate continued flow of ideas. The ideas were synthesized to create a list of possible program partners and service providers.

A questionnaire was formulated (addendum A). Each service provider was asked how many times per year their normal service delivery was interrupted, whether the information was recorded,
and if so, is the information accessible for this study. The content of the questionnaire followed the path of the research questions. The questionnaire was designed to determine and report the present status of service delivery, identify the customer population and their needs, and determine what engineered interventions already exist.

Initial meetings with the identified local service providers were scheduled. Each meeting was held independently. The initial question was posed to identify the breadth of the service that each organization provided and the methods used to facilitate the service delivery. This was for informational purpose, but also served as an ice breaker before we embarked on the content of the questionnaire. One recognized limitation of this interview/questionnaire process was its dependency on participants being candid in their responses to the questions. The questions were designed to identify service delivery voids and weaknesses. Providers could think that confirming a problem could or would be perceived as performance weaknesses. It was imperative to maintain the atmosphere of partnering; fostering trust within the new relationship was critical to the success of the research.

Further questioning identified the “at risk” target group and
the means of establishing a list of people who need intervention during times of interrupted service. Identifying possible obstacles to the creation of this type of list was important to this process. These discussions served as the initial introduction to the idea of partnering, which is an important aspect of the potential program. The diversity of perspectives added a depth to the discussions as well contributing to the flow of ideas. Results of the partnership discussions led to specific tasks relative to the creation of a contact list of the “at need” population.

Statistical research included investigating weather related information through the National Weather Service. It was necessary to identify precipitation, temperature, snow fall and extreme ice conditions recorded for each day between November 1, 2005 and April 30, 2006. Vermont State Police during times of inclement weather will declare a “snow day”. The declaration of a “snow day” in a specific geographic area allows the troopers to use a short report form when dealing with minor vehicle accidents and motorist slide-offs. “Snow days” are an accurate barometer of poor travel conditions. The gathering of daily weather data, including Vermont State Police “snow day” declarations as well as the local school system’s cancellation dates identified hazardous travel days. Springfield School
Department records of the number and dates of weather related school cancellations were looked at to identify an additional indicator of poor travel conditions.

The correlation of identified hazardous travel days in combination with the responses from service providing agencies regarding their interruptions to normal service delivery were utilized to create research dates. Poor travel conditions could affect service delivery. The research dates were used as the basis to research Emergency Medical Services provided. Springfield Hospital Emergency Department records related to types of injuries and illnesses treated were also requested for the identified research dates.

Springfield Fire Department uses Firehouse Software as a reporting integrated data base. Emergency Medical responses for the November 1, 2005 to April 30, 2006 time frame, as well as each identified proposed interrupted service date, were recorded. The research was done to create a control, the average daily winter response, as a comparison marker to the impact of times when service delivery was interrupted. The EMS categories queried were: Cardiac, Respiratory Distress, Altered Level of Consciousness, Diabetic Emergency, Falls, Weakness, Altered Mental Status and Dizzy/Syncope. Information will be displayed
in a graph which shows the correlation between each EMS category to normal seasonal days as well as to inclement weather days that resulted in delays or lapses in normal service delivery.

Central Vermont Public Service, the local primary electric utility, was a source for information about the number of power outages and their duration within the Springfield Fire Department’s response jurisdiction. Only those outages that lasted greater than twelve hours were recorded. The twelve hour limit was used so that the outages would be relevant to support services that would normally be available being interrupted.

Once it was determined that a problem existed and the scope of the problem was clarified, the identification of risk reduction planning components was initiated. The Homeland Security, Leading Community Risk Reduction student manual (2005) was used for guidance to the requirements for the development of a risk reduction plan. The five step program outlines the process of risk reduction: Developing ideas and support, surveying the existing conditions within the community, assessing risk and providing tools to prioritize needs, creating strategies with sound business bases and implementing programs and gathering approval and finally review and evaluation. These are the abbreviated concepts of the model Risk Reduction Plan. The
implementation of a risk reduction model is out of the realm of descriptive research. Identifying the risk reduction model steps, and determining how it relates to our current condition, is how this descriptive research utilized an action based model to facilitate descriptive applied research.

Results:
The hypothesized problem was presented as; Home health care and support services have become an increasingly vital component of our senior population’s daily lives. Our senior population is living longer and spending more years in their homes with the assistance of the agencies which provided these services. The problem is that the Springfield Fire Department has never reached out to communicate with our elderly population or the home service providers. Communication is necessary to determine the level of need during atypical events that, while interrupting daily delivery of service, do not reach the threshold set to activate sheltering or evacuation plans. The research questions created to proof this hypothesis were: Is there a problem? What bridges to interrupted service already exist? Who is the target group? What are the needs of this target group? How do we communicate with the identified target group? Is a risk reduction plan necessary and if so what should be included in the plan?
The initial meeting of fire department key people took place on March 23rd, 2007 as part of a regularly scheduled officer’s meeting. Deputy Chief Richardson, Assistant Chief Morris and Captains Baldwin, Benton, Foulois and Wheeler attended. The research topic was presented to the group. The research question “Is there a problem” was then posed. Deputy Richardson, a 26 year veteran of the Springfield Fire Department, spoke of his experiences. He started to list what he remembered as the typical emergencies we see during times when we have expanded our staffing due to inclement weather. Notably, the Deputy listed breathing problems and anxiety levels together. Captains Benton and Wheeler both remarked that breathing problems and anxiety are closely tied. Wheeler and Benton felt that diabetic emergencies should be added to the list. A discussion of interrupted routine and the correlating fear followed. Falls were added to the list by Captain Benton, with Captain Baldwin offering details of one such response. At this point Assistant Chief Morris summarized that it appears a problem exists. He also thought it would be interesting to see what the statistics would prove out.

A brainstorming session to identify potential partners and service providing agencies followed. The synthesized results of
the brainstorming effort identified the following service providers: Springfield Hospital, Council on the Aging, Hospice, Visiting Nurse, Meals on Wheels, & oxygen supply companies. Partnering groups identified were: Springfield Hospital Adult Day Care, local pharmacies, church groups, nursing homes, Springfield Housing Authority, Springfield Family Center, Springfield Senior Center, local doctor’s offices, Life Line, Community Emergency Response Team (CERT). Local media providers were also discussed as a potential partner in any program.

Determining whether a problem existed and what bridges were in place to correct the gap between interrupted service and normal service delivery was posed to each of the support services interviewed as part of the questionnaire. Joyce Lemire, Director for the Southeastern Vermont Council on the Aging, Inc., did not initially state that there was a problem. Lemire oversees the Visiting Nurse and Hospice providers who already utilize the fire department ambulance services and transport to the hospital as their bridge to service delays. Lemire’s agency also oversees the Meals on Wheels program. Lemire suggested that I speak with someone at Meals on Wheels directly. She identified challenges that her agencies have in recruiting and maintaining volunteers and offered that service delivery interruptions do happen. The people with whom I spoke from agencies which evolved
from provisions within the Older Americans Act offered no specific dates of interrupted service. They each identified winter and inclement weather as the major contributing factor leading to interruption of service, but none kept records.

The Meals on Wheels board members spoke openly with me. Chairman of the Board Ray Nymaln assumed a moderator’s role. Volunteer delivery drivers and bad driving conditions were immediately mentioned by many as relative to interrupted services. Board members reported that service has been interrupted historically by between four and six times per winter, though no actual records are kept. They spoke of their delivery of extra meals (frozen) for the customer to have on hand for such emergencies, and of the program guidance given to the participants suggesting that they maintain other food that can be readily available. Board member Claudia Schlieman mentioned that many participants don’t stock extra food and that they cannot or will not prepare it, even if it is on hand. Schlieman also added that many people eat the extra meals as snacks or when they want to replace a meal that doesn’t appeal to them. Numerous Board members began adding comments and stories; many board members seemed to be in agreement that this portion of their guidelines was weak.

Chairman Ray Nymaln chose this time to use his authority as Chair to move to the subject forward. The consensus by the board
members was that a problem did exist.

Deb Luse, Director for Springfield Family Center, stated that she did not feel there was an existing problem, and that each service provider handled it the best they could. Woody Bickford, “Volunteer of the Year” for the Southeastern Vermont Council on the Aging Inc., acknowledged times when service was interrupted. Bickford stated that a problem existed, and that it was bigger than imagined. “The threshold for opening shelters that you spoke of, Chief, is irrelevant” Bickford said, and then continued, “Many of the elderly would not voluntarily go to a shelter, which makes your problem bigger than you even think”.

Two of the region’s largest home oxygen service providers were interviewed. Lincare Inc.’s customer service representative, Ashley Collins, stated that there was no service delivery problem and that they provide 24 hour service. She also stated that each customer is supplied with a standby supply of oxygen. She did state that in times of major disaster her company would rely on emergency services. Keene Medical Products, Inc.’s representative, Brad Bailey, stated that home oxygen use was not considered a critical service. They have a standard policy which states that the customer will be supplied with a 24 hour standby supply of oxygen, relative to the flow rates used by that
customer. Then they also have a 24 hour service guarantee, which would bridge any service gap. Keene Medical Products also supplies home ventilators and dialysis, which fall under the critical service category. These customers and their care providers are instructed to notify 9-1-1 communication centers, local utilities, phone companies and emergency services to make them aware of the critical nature of their support equipment within the home setting.

Each medical supply company did acknowledge that in times of interrupted electrical service their customers would need to switch to standby oxygen cylinders. Standby cylinder use is the recommended engineered solution for power outages where generator back-up is unavailable. Standby oxygen cylinders are usually large in volume in order to meet the customer’s individual needed flow. The American Academy of Orthopedic Surgeons (Browner 2004, pg. 203) state that cylinder sizes are standardized, while standby sizing is usually typed. The various sizes are “M”, yielding 7.8 hours @ 6 liter per minute (lpm) use, “G” yielding 27.4 hours @ 6 lpm use and “H” yielding 49.7 hours @ 6 lpm.

Stanley Tucker, District Supervisor for Central Vermont Public Service, gathered information pertaining to power outages in our
response area during the winter of 2005. An outage with duration of greater than twelve hours was the research criteria. He reported the days immediately following the two day storm on February 14 and 15 as the only reportable incident for 2005.

Statistical research first had to identify the days of interrupted service, and then define the cause of the interruption. Each service provider queried did not have records of dates of interrupted service. Each offered an approximation of the number of occurrences relating to inclement winter weather. National Weather Service Archives were researched to identify dates of inclement weather in the Springfield, Vermont area. Fifteen dates between November 1, 2005 and April 30, 2006 were identified as extremely hazardous. Vermont State Police Dispatch Supervisor Amy Harken reported that there were 12-15 "snow days" declared during the winter of 2005 by the Rockingham State Police Barracks, which covers the region that includes Springfield. The Springfield School District closed school five times during the winter of 2005 because of inclement weather, according to Transportation Manager Martha Tarbell.

The identified dates for hazardous travel and presumed interrupted service were: November 23rd & 25th, December 16th/17th, 26th, 30th/31st, January 1st, 12th, 15th, 19th, 24th &
30th, February 14th/15th and 24th, March 4th/5th, and April 24th.

Catherine Howland, Director of Emergency Nursing for Springfield Hospital, stated that she felt there was a problem when presented with the question about the research problem. Emergency room records of the types of injuries and illnesses related to cause and correlating to dates of presumed interrupted service were requested. This information was not returned in time to report on it in this study. An unfortunate limitation to the process of gathering information is the inability to personally access records. Though there is mandated hospital reporting to the State Department of Health that is public record, that information did not offer enough detail to make the information useful on its face for this study.

Springfield Fire Department uses Firehouse Software as an integrated data base. Emergency medical responses for the span between November 1, 2005 through April 30, 2006 and for each identified presumed interrupted service date were recorded, synthesized and displayed in Figure 1R.
Figure 1R illustrates that there is an increased level of response to all EMS categories listed with the exception of altered level of consciousness. The most significant proportional categories identified were: weakness (hazardous travel: control) was 5:1, diabetic emergencies (hazardous travel: control) 4:1, and respiratory distress (hazardous travel: control) was 3:1. All other categories proofed at a (hazardous travel: control) 2:1 ratio.

Is there a problem?

When looked at in totality, the statistical analysis, the
interview questionnaire and the background information gained by the readings, the results in summation equate to a formal “Moderate Hazard” when using the Risk Rating Matrix (LCRR, Student Manual, 2005, pg 2-73). This hazard rating was determined by taking the probability of occurrence (three) and multiplying it by the vulnerability rating (two), and comparing the result (six) to the matrix rating chart to identify the risk rating. A six score is identified as a “Moderate Risk Rating”. These results illustrate that what may seem on an individual basis to be small incidents do have a broader societal impact when looked at in this perspective. Yes, there is a problem of moderate proportion.

Who is the target group?
Joyce Lemire initially identified the target group as the elderly, but then clarified it to more specifically the elderly who live alone and those that have medical needs. We determined that Visiting Nurse clients could very well be part of this target group also. The Meals on Wheels Board members identified the elderly who live alone as the principle target population, and also stated that they had a relatively small number of multi-needs clients whom they served.

Mary Ann Reilly is a Respiratory Therapist at Springfield
Hospital who manages the “Better Breathers”, which is the support group for patients coping with respiratory disease. Reilly stated that “Each breath can be a challenge for my patients”. Reilly stressed the negative toll any upsetting situation can place on these people with respiratory disease, such as an additional physical challenge or the disruption of their routine. “They have no margin of tolerance”, she said, and then stated; “They are surely part of your study”.

The statistical research of patients treated during the dates of presumed interrupted service strongly indicates the elderly as our target population. See Figure 2R.
What are the special needs of this target group?

Woody Bickford, himself a member of our “Greatest Generation” (Brokaw, 1998), identified the needs of the elderly and the “at need” population as wanting to know that they and their pets were going to be taken care of when they felt that help was necessary. Bickford spoke passionately of the reports from the Katrina tragedy (August 28, 2005), stating that older people won’t call for help until the need is dire. Claudia Schlieman, Meals on Wheels Board member, is also a professional; she is a Mental Health Counselor with the Health Care and
Rehabilitative Services of Southeastern Vermont. Schlieman offered “The issue will be establishing trust...If you want a relationship you will need to do the work.” Joyce Lamire stated that her agencies’ clients want their independence. Many of the clients have varying medical needs that rob their independence. She felt that most would do just about anything not to trouble their families. There is a prevailing belief among many providers and experts that many elderly live their lives ashamed and frustrated of their aging and of the help that they need. Katherine Howland stated that in times of disruption “Calming communication is often what a person needs”. The deliverance of calm communication is a realistic intervention which the Springfield Fire Department could lead. Providing wellness check phone calls during times of inclement weather with presumed service interruption could be the show of support that lets them know they are not alone. This call could be followed up with a scene wellness check if deemed warranted by the fire department or partnering representative. During times of extreme inclement weather we add additional staffing, so this program could be integrated readily with routine operations.

How do we communicate with the identified target group? How do we create a list or call data base? What barriers to creating a list currently exist?
Communication with the elderly presents a unique set of difficulties. "The elderly are very leery of putting their names on lists. Creating a voluntary list of program participants is going to be a problem. I wish our existing client list was transferable." replied Southeastern Vermont Council on the Aging Executive Director Joyce Lemire when the question was presented. She then offered a copy of her agency’s client preparedness register that she felt might be useful as a registration form. Meals on Wheels board member Marie Contrell, who oversees the printing and advertising sales of the placemat that are used at meals which are served daily to the elderly, offered to sell the fire department advertising on the placemats. A suggestion from a Meals on Wheels volunteer driver, who did not identify herself, that we use the established rapport between delivery drivers and their clients as a vehicle to establish a list. She suggested that the drivers could explain the need for the list to the elderly whom they serve. Often, these include people who typically do not go to the senior centers, or use other services where they could be added to this list. Deb Luse commented that in order to gain the confidence of the elderly, you will need someone to meet with them and explain what your group is doing. Bill Mitchell, Director of the local Community Emergency Response Team, suggested we work toward developing a registration form that has a clear explanation of the service
being offered and start disseminating it after we conduct meetings with the identified partnering groups.

The next step was another meeting with the key people of the Springfield Fire Department. The group was updated on the research results. The key people were positive in the ability of the Springfield Fire Department to maintain normal function while delivering the intervention activity. Captain Foulois remarked, “With the CERT assistance we can pull this off even if we are committed at a fire or other emergency scene.”

Is a Risk Reduction Plan necessary and if so what should be included in the plan?

The descriptive research described the current conditions and identified statistical data used to proof the hypothesized problem and which supported the opinions and remarks offered by persons interviewed. This snapshot of the existing conditions translated into a “Moderate” risk rating. Yes, the research warrants a risk reduction plan.

The components of the risk reduction plan will follow the guidance presented in the second year Executive Fire Officer Program course, Leading Community Risk Reduction (Homeland Security, 2005). The descriptive research conducted in
identifying our current situation required many of the preparatory components of a risk reduction plan. The risk reduction model is divided into five steps with corresponding activities which yield related program outcomes. The five steps will be completed simultaneously with the building of support and equity by the fire department to partnering organizations and stakeholders which will lead toward engaging the community and building trust and banking equity.

The first step, “Getting Ready”, requires the development of a project plan. In the case of this study, the research problem and purpose were posed in order to facilitate the determination of the necessity of a risk reduction plan and the subsequent project plan. The initial discussions of the research project with key fire department personnel and our need to think beyond our normal scope of operations in the services we provide were the rally cries in an effort to build organizational support. The professional respect and allegiance held mutually served as equity.

Step two was “Assessing Community Risk”. Analyzing the problem statement encompassed community research, identifying causation (hazardous travel days) and assigning a “Risk Rating”. The risk rating was accomplished by assessing vulnerability and
probability. After insight from key people, such as community service providers and partner organizations, it was determined that a problem did exist. It was also determined that each key person supported working toward reducing the risk and creating an intervention program. The result of the discussion was the formation of risk reduction objectives. The main objective of this program will be to reduce the increased rate of hospitalization of our elderly at risk population during times of interrupted home care and support services due to inclement weather. The identified goal is 100%.

The third step is developing “Intervention Strategies”. One such strategy is to create a voluntary call list data base. Numerous obstacles to the establishment of this data base have been identified. One strategy is to utilize key people to sell the program to the identified potential partners and seek their assistance in creating the list. The list is the key to our intervention efforts. The Springfield Fire Department and our local Community Emergency Response Team (CERT) will partner in making calls to the list during times of extreme inclement weather when services historically would be interrupted. Wellness checks would be conducted when warranted, which will be determined by the initial phone contact. The strategy is to reach out to the populous determined to be at risk, giving
assurance and monitoring their well being as an intervention tool.

Step four is “Action”, which includes assigning responsibilities. Fire fighters Thomas and Stagner have become very involved and have assumed program responsibilities. Efforts are continuing by the Springfield Fire Department, CERT and other partnering organizations working to create the needed list. Marketing efforts will include advertising on placemats used at the daily congregate meal for the elderly and Public Service Announcements placed on Springfield Area Public Access Television. Registration forms and program explanation will be delivered and retrieved by volunteer Meals on Wheels drivers, and will be placed in doctor’s offices, the Springfield Senior Center and the Better Breathers Support Group.

Each task or support objective follows a cost benefit analysis. Before a new program cost is submitted as a budget item, all avenues for donated resources must be exhausted. Policy approval is at the discretion of the fire chief for a program of this nature. If it is found that it will require additional funding beyond the scope of our current operating budget, then an additional line item and the related budget process support will be requested from the Select Board.
“Review and Evaluation” is the final step. As with all programs and projects constant review and adjustment is necessary to stay on task and to meet goals. Evaluating the intervention program can only begin if we can effectively create a list of the at need population. This is paramount to the program. Maintaining log records of hazardous travel days and response analysis will illustrate whether the program is reducing the risk to our target audience.

Discussion:
The “Older Americans Act” of 1965 was described as “The most important legislation affecting older adults in United States history” (Manheimer, 1994). In seeking information regarding social and support services which assist our senior citizens to stay in their homes for longer, I found it interesting to read of the dynamic process of decision and policy makers working with individuals and interest groups to find resources and fulfill the expectations for the elderly in American society. The aging “Baby Boomers” are well versed in the workings of the political system and will become increasingly politically involved to expand governmental support for related services that meet their needs (J. Gallo, 1999).
I found the relationship between the descriptive research results and the findings of others enlightening. The needs of the elderly have been well documented. The insight afforded through the recorded observations of others assisted in my communication process with the care and service providers. It served to fill verbal voids in their descriptions of obstacles and temperaments experienced with their delivery of service to elderly clients.

The needs of the elderly during specific times of support service delivery interruption that fall short of the threshold at which a shelter would be opened have not been discussed or examined at the fire service level, or at any general level where the information is well documented and readily available for research. Information originating from the fire service by title and abstract did not yield any specific supportive documentation.

Statistical analysis and interview questionnaire results have established that a problem exists in Springfield. The likelihood of a categorized event happening in a day identified with a presumed interruption of service is alarming. Intervention strategies are designed to create contact. This contact will be established initially by phone, and if it is determined to be
necessary, a physical assurance/wellness check will be conducted at the residence. This strategy targets more than merely the physical needs of the individual. We are targeting the destructive affective nature of loneliness and the effect of disruption to one’s routine in an atypical situation.

“The loss of memory per se is not the problem. What creates confusion is the disconnection. When loss of memory disconnects a person from outer relationships and from trust in one’s inner strength, then difficulties arise.” (Cason 2001, pg.16-17)

Confusion was described as a person working from two levels. One level is the person’s basic being, which is expressed through longing for his/her past life. The person is seeking feelings of being grounded and connected. The second level is one’s fear, fear of the unconnected present and uncertain future. A balance is struck between the two levels and one’s physical and emotional environment. Routines and schedules are a means by which one’s memory is supported; disruption to a routine can create an imbalance resulting in emotional peril (Cason, 2001).

Ann Cason (2001) further discussed mood swings, mistrust, over controlling behavior, criticizing and becoming demanding. Each identified behavior was seen as a response by the elderly to dealing with disconnection and the attempt to re-establish one’s
self. These behaviors were identified as obstacles to the creation of a list by Springfield area service providers.

In a conversation with Mary Anne Reilly, she spoke about the triggers for sufferers of Chronic Obstructive Pulmonary Disease (COPD). She stated that a spiral effect occurs between one’s anxiety level and the ability to breathe. The more anxious the person becomes, the greater the difficulty breathing, which in turn creates greater anxiety and thus begins the spiraling effect. She stated that this can quickly become respiratory distress. The fear of the elderly relative to their environment and personal safety is a major factor in an elderly person’s daily life; any element of change in the physical environment or routine can lead to fear and anxiety (D. Kausler, B. Kausler, 1996). The disruption of services or change to a routine, such as the delay in delivery of a meal or missed hygiene visit from a home health care aid, could trigger an adverse medical event.

The home oxygen delivery companies have home oxygen listed as a non-critical service. Standby tanks are the prescribed solution for cases of power outages during which oxygen concentrators cease producing. The physical act of turning on the oxygen cylinder can produce increased anxiety for an elderly person, first by the act itself, and increasingly so as the hours pass.
and the power remains out. They are aware that they are now utilizing their backup oxygen and no longer have that safety net.

Reaching the elderly emotionally is necessary to the successful completion of the needed list. The statement “Loneliness breeds both illness and early death” (Rowe & Kahn, pg. 156, 1998) is very valid. Woody Bickford was adamant in his views on the elderly and their pets. Mr. Bickford added a dimension to our research that transcended to our “Community Response Plan” when shelters are opened as a resource. Woody assured us that we would not be able to gather an extensive call list data base if we did not respond to questions about what would happen to their pet if a person needed to be transported to a medical facility. Pets have been seen as a solution to combating loneliness, especially for the elderly. The Pets for the Elderly Foundation surveyed attitudes of the elderly regarding the benefits of pets and reported that 95% talk to their pets, 82% state that the pet helps when they feel sad, 71% stated the pet helps when they physically feel bad, 65% stated touching their pet makes them feel better, and 57% confide in their pets (New, 1986).

I have interpreted the results of the research as that a problem exists, and it impacts more citizens than I had imagined.
Causation is still definitively unclear. The intervention strategies have been based on contrasting and comparing the research data and existing studies conducted by others. The research problem and questions, and the related answers, have assisted in the decision to establish a risk reduction plan and have accomplished much of the preparatory process.

The hypothesized problem identified in this research was validated. The magnitude of the problem is relative to the amount of tolerance we will accept both as the community and the fire department. “Assumed Risk”, once the keystone reserved to identify the foundation of our operational fire service, now must be applied to a much broader spectrum. The fire service has experienced this before, first with the introduction of the responsibility for hazardous materials and then for EMS. Leading Community Risk Reduction is another point of growth for the fire service. This growth will include identifying local problems, forming partnerships, and seeking solutions for implementation while working within both the private and public sectors. Ultimately, Leading Community Risk Reduction will define the acceptable level of “Assumed Risk” relative to the issues or problems identified within our communities.

The Springfield Fire Department as an organization has grown
through this research process. Identifying organizations to partner with at the operational level beyond an incident is relatively new to this fire department. The introduction to the concept of Community Risk Reduction is expanding our operational scope. I mentioned that public education efforts have been little more than public relation details in the past. The commitment of the organization to explore a community problem and look forward to a defined process for program development is the foundation for an organizational cultural change. A willingness to recognize a weakness so that it can be improved upon or corrected is a necessary step for growth.

Recommendations:
The Springfield Fire Department must continue with the development of the risk reduction plan. As an organization we must continue to work to foster true adaptive change (Heifetz, 2002, pg.58). The United States Fire Administration has recognized a need to react to emerging issues; reducing injuries to our elderly during times of interrupted service should be a platform from which to build internal and external support.

The initial meeting of departmental key people was held as part of a scheduled officer’s meeting. The reasoning for not keeping it as a separate issue, and thus holding a separate meeting, was
to avoid discomfort on the part of the officers. The familiarity offered at a meeting that the officers serving as key people were comfortable with allowed for the introduction of a new concept without the resistance to a new idea that is typical in human nature. In a small organization, the initial process would have been better served by identifying people who would have an inherit interest to serve these positions instead of targeting officers as a whole.

Interview questionnaires are difficult tools to use when interviews that were set up as a one-on-one meeting turn into meetings in front of organizational board or workers. The individual meetings were more successful. I would recommend scripting a survey with definitive, measurable responses to be followed by individual interviews.

When it was determined that the service providing agencies maintained no records of interrupted service, the research might have stopped based on a belief that there was no validity. Creating presumed dates of interrupted service by a cross application of data allowed the research to continue.

In conclusion, my recommendation to others replicating this research would be to conduct a hazard analysis and identify each
response category within the initial target group. I cannot suggest that this type of program is feasible for all communities. Our ability as a small community of ten thousand makes the intervention strategies realistic, in part because of the partnering assistance of our local CERT personnel. The National Fire Protection Association, as a promotion for their “Remembering When” program for fire and fall prevention for the elderly, state that twelve percent of our nation’s population is over sixty-five years old. Using those figures, if we were able to establish a twenty percent call list it represents 240 calls per interruption event. Redefining and narrowing the target group is one possibility for making that call list more manageable. Our research would have us narrow our target at risk group to the elderly with a history of respiratory and cardiac issues as a means to narrow the target group.
Addendum A.

SPRINGFIELD FIRE DEPARTMENT

INTERVENTION

QUESTIONNAIRE __________________________________________

ORGANIZATION

Date ____________

REPRESENTATIVE

A. What is the breadth of services provided by your agency? What methods does your agency use to facilitate service delivery?

B. Are there times when conditions, (lack of power, weather, etc.) cause an interruption in your agency's normal service delivery? If yes, is this information recorded and retrievable?

C. Do engineered bridges already exist to reduce the impact of interrupted service?

D. Who are your target customer group?

E. Are there special needs for this target group?

F. What barriers do you feel exist in communicating with and creating a data base with the identified target group?
References


