A nautical chart of Martha's Vineyard, Massachusetts, showing the island's coastline, water depths, and various navigational markers. The island is highlighted in yellow. The text "INJURY AND FALL PREVENTION FOR THE ELDERS OF MARTHA'S VINEYARD" is overlaid in large, bold, black capital letters across the center of the chart. A horizontal black line is drawn below the text.

# INJURY AND FALL PREVENTION FOR THE ELDERS OF MARTHA'S VINEYARD

Community Health Clerkship 2008

University of Massachusetts  
Worcester

Graduate School of Nursing &  
School of Medicine

# Rural Health Scholars



Megan Furnari, Diana Moore,  
Joel Bradley, Jennifer Mistretta

# OVERVIEW

- INTRODUCTION-  
The Project: What We Did, Where We Fit In
- PART ONE-  
Beyond The Island: Falls, The Big Picture
- PART TWO-  
Prevention: Strategies, Services, and Community
- PART THREE-  
Making Martha's Vineyard Healthier:  
A Few Recommendations

# PART ONE

## Beyond The Island: Falls, The Big Picture

~ Contextualizing Falls in the Elderly ~

THE BIG PICTURE = BIG NEWS.

# How big is the problem?

- **More than one third of adults 65 and older fall each year in the United States** (Hornbrook et al. 1994; Hausdorff et al. 2001).
- **Among older adults, falls are the leading cause of:**
  - 1. Injury deaths**  
15,800 people 65 and older died from injuries related to unintentional falls in 2005 alone (CDC 2006).
  - 2. Nonfatal injury - ER Visits**  
1.8 million people aged 65 and older were treated in emergency departments for nonfatal injuries resulting from falls (CDC 2006).
  - 3. Inpatient Hospital Stays**  
433,000 of these patients were hospitalized (CDC 2008).

- **The risk of being seriously injured in a fall increases with age.**
  - In 2001, the rates of fall injuries for adults >85 were four to five times that of adults 65-74 (Stevens et al. 2005).
- **Men are more likely to die from a fall.**
  - The fall fatality rate in 2004 was 49% higher for men than for women (CDC 2005).
- **Rates of fall-related fractures are more than twice as high for women as for men**  
(Stevens et al. 2005).
  - Women are 67% more likely than men to have a nonfatal fall injury (CDC 2006).

# The So-What: The Physical Importance of Fall Outcomes

- **20% to 30% of those who fall suffer moderate to severe injuries:**
  - Most often bruises, fractures, or head trauma.
  - Injury can limit mobility and increase risk of early death  
(Alexander et al. 1992; Sterling et al. 2001).
- **Hip fractures are the most serious fall-related injury in older people.**
  - 15% die in hospital, with 1/3 not surviving beyond one year afterwards.  
(McClure et al. 2005).
- **Falls are the most common cause of traumatic brain injuries** (Jager et al. 2000).
  - In 2000, traumatic brain injury accounted for 46% of fatal falls among older adults (Stevens et al. 2006).
- **People 75 and older who fall are four to five times more likely to be admitted to a long-term care facility for a year or longer** (Donald et al. 1999)

# The So-What: The Financial Importance of Fall Outcomes

## 2000 Cost Study (CDC):

- \$0.2 billion in direct medical costs for fatal falls in 2000
- \$19 billion for nonfatal fall injuries (Stevens et al. 2006).

### Of nonfatal injuries:

Hospitalizations = 63% (\$12 billion)

ER visits = 21% (\$4 billion)

Outpatient = 16% (\$3 billion)

# The So-What: The Emotional Importance of Fall Outcomes

- Many people who fall - even those who are not injured - develop a fear of falling.
- Fear can limit activity, leading to further decline in mobility and fitness, and a still higher risk of ensuing falls (Vellas et al. 1997).

**Q: Enough with  
the nation:**

How Does Martha's Vineyard compare to  
Massachusetts, anyway?

# Breakdown of Duke's County Residents >60 By Age

(2000-2005 post-census estimates from State MassCHIP Database)

<b>DUKE'S COUNTY</b>	<b>AREA COUNT</b>	<b>AREA PERCENT</b>	<b>STATE PERCENT</b>
Ages 60+	3,023	19.4	17.7
Ages 60-64	777	5.0	4.5
Ages 65-74	1,038	6.7	6.1
Ages 75-84	911	5.8	5.0
Ages 85+	297	1.9	2.2

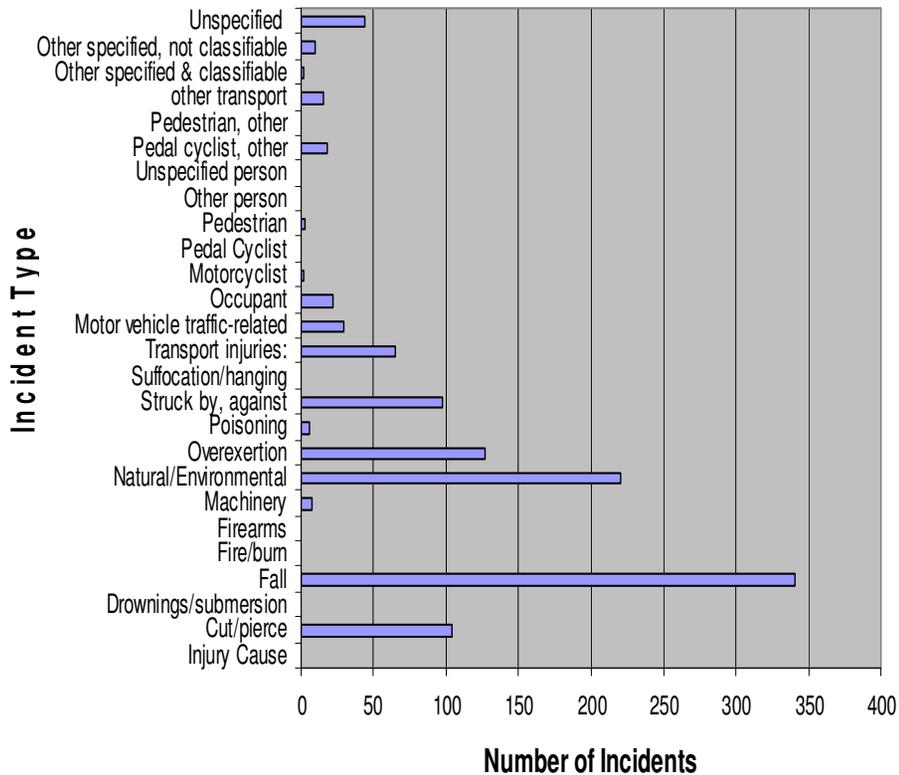
# Breakdown of Duke's County Residents >60 By Living Situation

(2000-2005 post-census estimates from State MassCHIP Database)

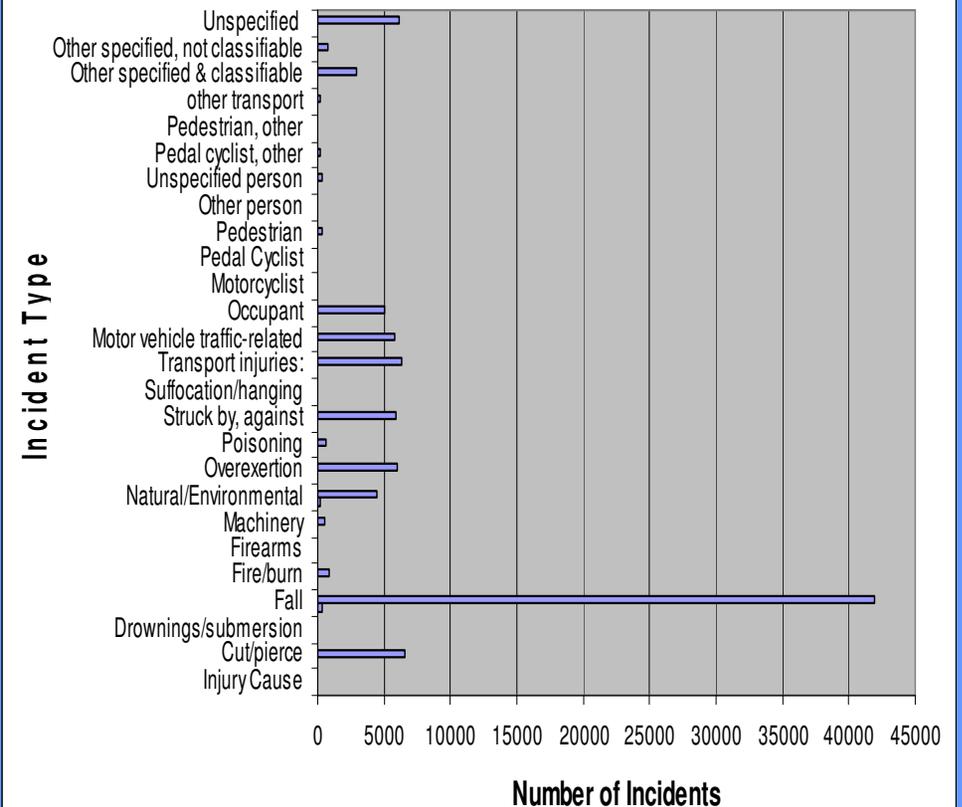
<b>DUKE'S COUNTY</b>	<b>AREA COUNT</b>	<b>AREA PERCENT</b>	<b>STATE PERCENT</b>
Ages 65+	2,153	14.4	13.6
Living in Family Households	1,252	58.2	61.2
Living Alone	715	33.2	29.8
Living with others in Non-Family Households	86	4.0	2.3
Living in Group Quarters	100	4.6	6.7

# The Scope of Injury in the >60 Population: Comparing MV to MA to MA -ER VISITS-

Martha's Vineyard Hospital ER Data for Incidents Among the Age >60 Population



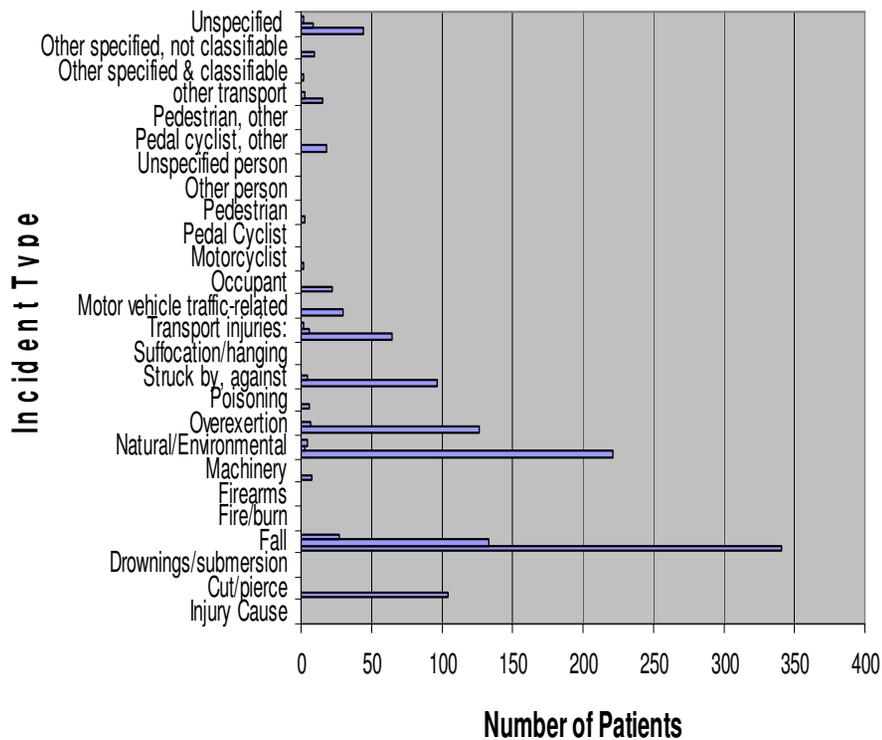
Massachusetts ER Data for Incidents Among the Age >60 Population



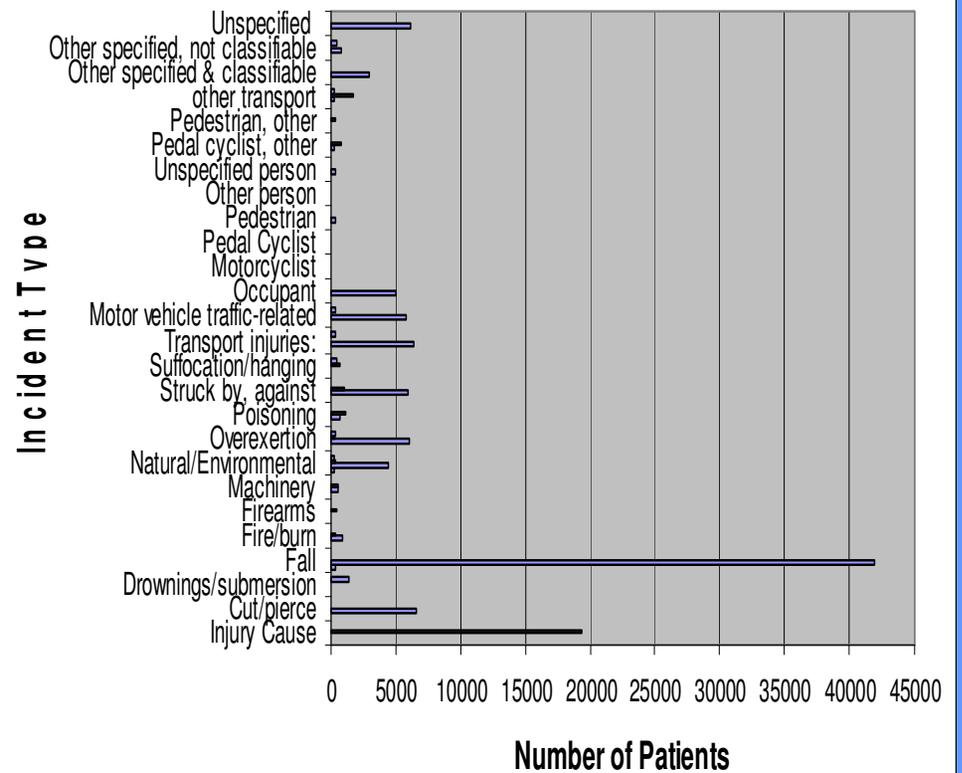
# The Scope of Injury in the >60 Population: Comparing MV to MA

## -OBSERVATION-

**Martha's Vineyard Hospital Emergency Room OBX Data for Incidents Among the Age >60 Population**

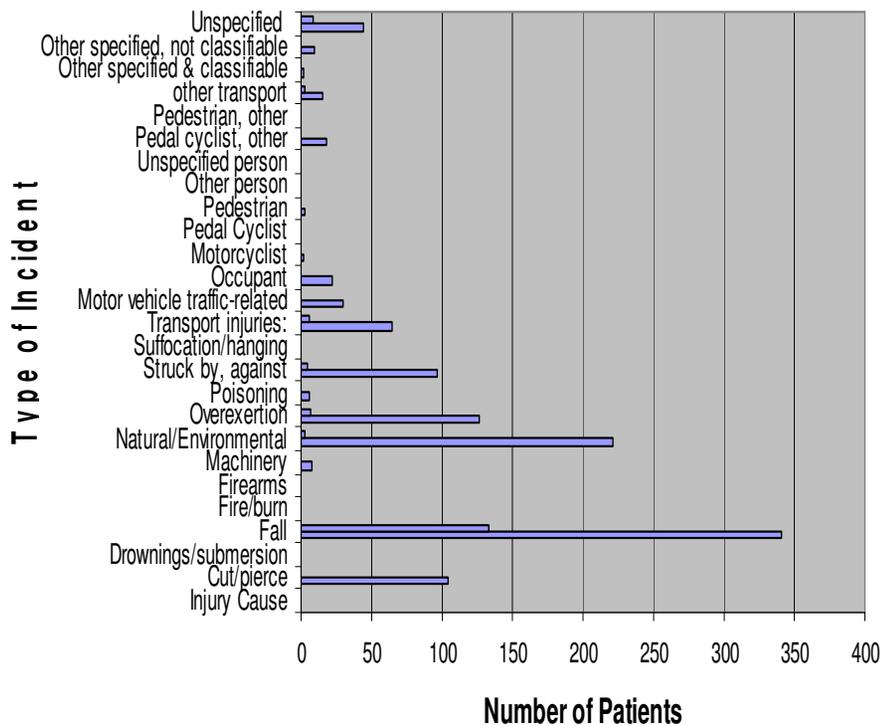


**MA State Emergency Room OBX Data for Incidents Among the Age >60 Population**

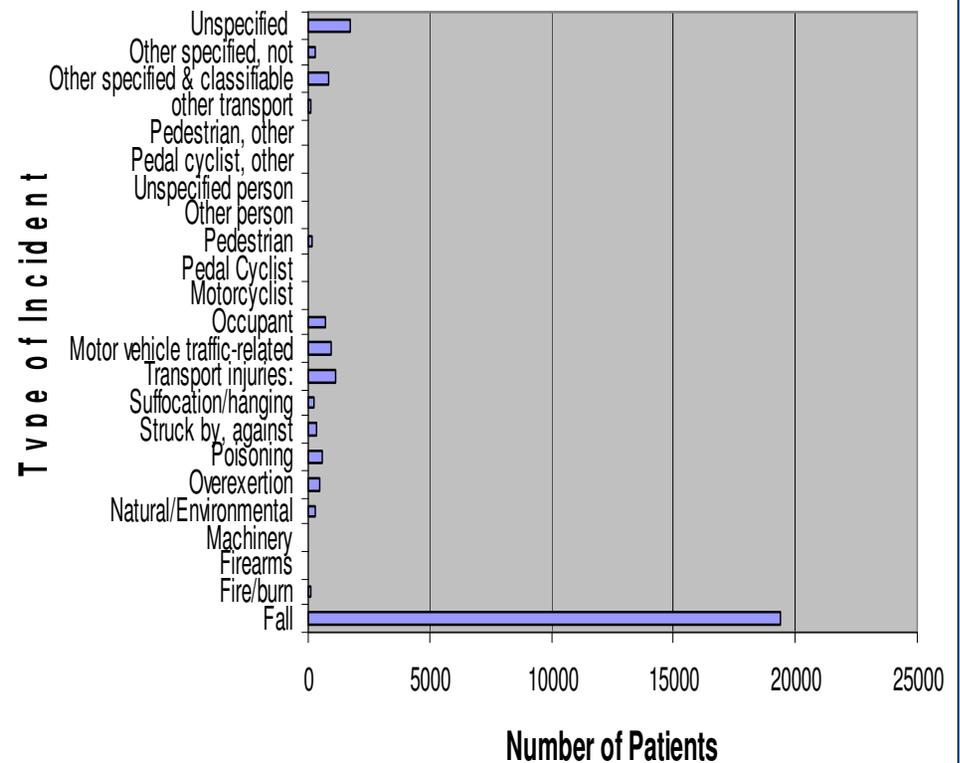


# The Scope of Injury in the >60 Population: Comparing MV to MA -INPATIENT-

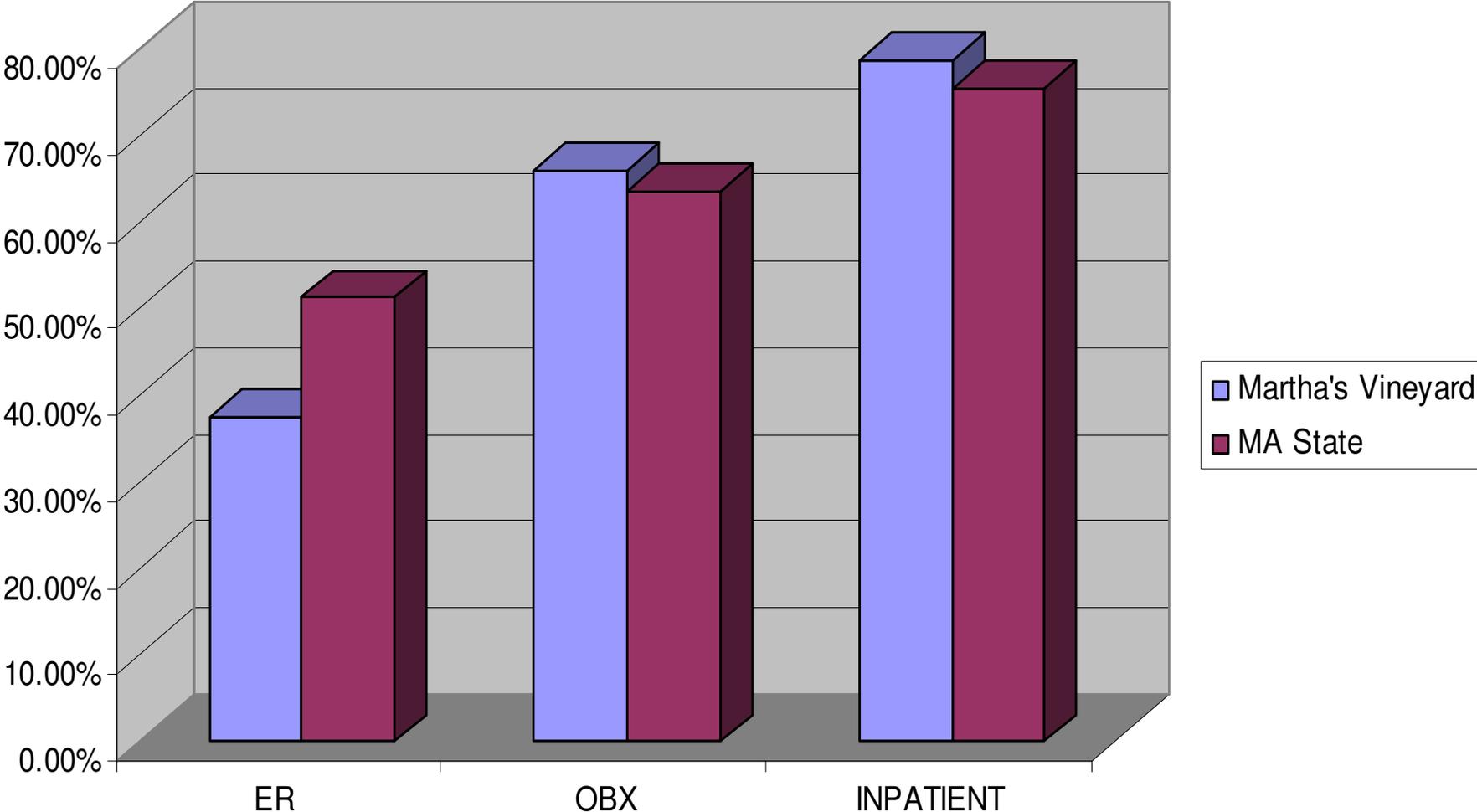
**Martha's Vineyard Hospital Emergency Room  
Inpatient Data for Incidents Among the Age >60  
Population**



**MA State Emergency Room Inpatient Data for  
Incidents Among the Age >60 Population**



### Percentage Comparison of ER Data For Martha's Vineyard and MA State



# Falls in Review

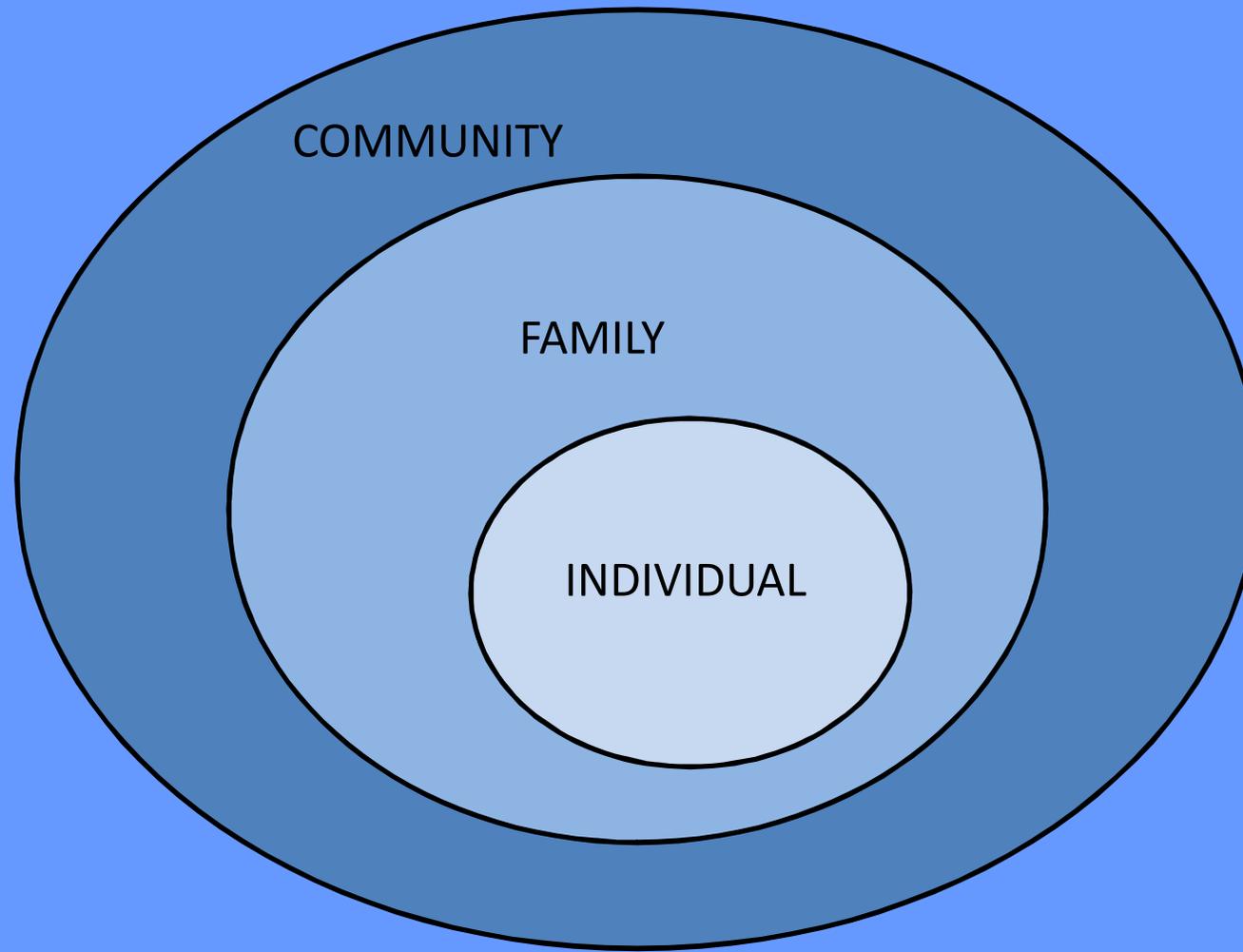
- Falls among older adults is a nation and world-wide epidemiological issue manifesting importantly in this small community
- While injuries cannot be completely eliminated, many can be prevented
- There is tremendous value in rigorously working to prevent falls and other injury in a community

# PART TWO

## Prevention: Strategies, Services, and Community

Q: How can the incidence of injury on the Island be prevented, or at least limited?

# Multi Level Support Systems.



# Individual Prevention Strategies

- Prevention involves taking responsibility for self-care
- Includes:
  - Strength training, flexibility
  - Footwear
  - Lighting
  - Nutrition, hydration
  - Environmental (safety assessments: pets, clutter, grab-bars, loose rugs)
  - Lifeline
  - Management of medications
  - Regular check-ups, dental care, hearing and vision testing

# Family Prevention Strategies

- Access to an updated Caregivers Home Journal
- Awareness of environmental challenges facing Elders
- Regular, open communication between caregivers and elders
  - Examples: frank discussions about ability to drive
  - Activities of daily living and ability for self-care

# Community Prevention Strategies

- Better lighting in the community, as sidewalks are re-done ensure that they are even surfaced and the raised height is not too high.
- Busy intersections should have adequate crosswalks, with walk lights, and sidewalks for access.
- Enroll in safe driver courses that offer tips for defensive driving.
- Preventative referrals from health care providers

## Inside Your Community: A Sampling of Services Offered.

- Senior centers offer exercise classes which include strength training, weight bearing exercises, stability training, flexibility, and instructional demonstrations on how to get up from a fall.
- AARP offers safe driving courses and there is a representative on the island

# Identified Community Improvements

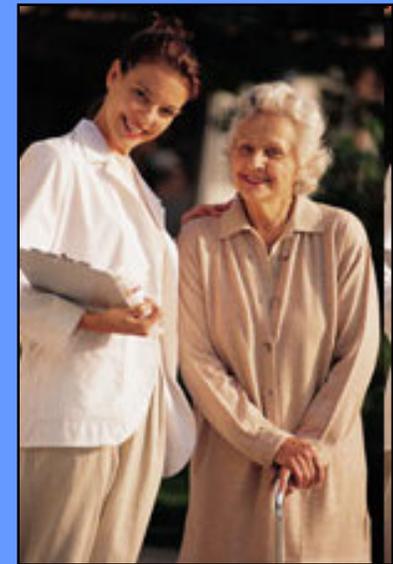
Martha's Vineyard is doing a great job on all three of these levels:

**INDIVIDUAL**



**FAMILY**

**COMMUNITY**



BUT: there are some areas that may have a shortage of adequate services...

PART THREE  
Making Martha's Vineyard  
Healthier: A Few  
Recommendations

**I.** Mental Health and Substance Abuse

**II.** Education For Approaching Older Age

**III.** Patching The Cracks:  
Specific Recommendations

**IV.** Using the Macro Approach to Address  
Micro Issues.

# I. Mental Health and Substance Abuse in Elders

- Many Island health care and service providers openly identified mental health and substance abuse as major community issues
  - critical barrier to providing effective care and community or home interventions
  - widely affects community initiatives to provide long-term care
- Inadequately addressed needs - shortage of mental health care and counseling services

# I. Mental Health and Substance Abuse in Elders: Some Suggestions.

- Address the need for a geriatric psychiatrist  
(on-island or on a consulting basis)
- Clearly identify substance abuse services on the island
- Offer additional support in the Winter when depression - and substance abuse - rates can be higher
- Improved management of medications in the elderly
- Wealthy elders also need support services
- Lack of counseling services specific to elder issues and needs

## II. Defining the Gray Area: Reaching Out To People of Gradually Changing Health Status

- What about those who are aging, but have not yet noticed - or been identified as undergoing - major health changes?
- What about those who are susceptible to injury, but have not yet had an incident?

## II. Defining the Gray Area: Reaching Out To People of Gradually Changing Health Status

### ISSUES TO CONSIDER:

- It is often difficult to distinguish patterns without seeing the “proof” of a major event - unfortunately, we often wait until that event happens before acting.
- People “age” at vastly different rates depending on environmental and genetically-related health factors
- Often even people at very high risk for injury refuse to change their lifestyle or behaviors to improve safety
- These conversations can be exceptionally difficult
- Safety is fundamentally a personal choice... but communities can help make good choices easier to make, though **there is no such thing as an injury-free population!**

## II. Reaching Out To People of Gradually Changing Health Status: Some Thoughts.

- Provide engaging lecture and seminar opportunities for residents transitioning to older age (in neutral settings).
- Educate community adults on caring for one another: knowing to look for changes in health status in oneself, and among friends and family members
- Create a clear understanding of whom community members can contact if they notice changes in themselves or others

### III. Patching The Cracks: Specific Recommendations

- **Brown bag days** should be offered in the senior centers and should be advertised in the paper prior to event-attempt to coordinate brown bag days with nurse visiting to take vitals
- **Utilize File of Life** at all senior centers and have regular workshops for updates-MD and NP's should distribute
- **Go through medications with Pharmacists** on the island, who expressed willingness to help patients when they come into the pharmacy

### III. Patching The Cracks:

#### More Specific Recommendations

#### Additions to the 55+ Section:

- **Monthly safety column** in the 55 plus section of the newspaper that could include educational topics, with links for the community: preventative exercise programs, etc.
- **Educational safety article** featuring increasing your awareness of the environment including: proper footwear, assistive devices, reflective clothing, flashlights, proper pedestrian rules.

### III. Patching The Cracks: Even More Specific Recommendations

- **A listing of volunteers that shut-ins and other elders can call - at a central number - for help with tasks: grocery shopping, snow shoveling, etc.**  
(Could involve collaboration with high-school community service; students can earn services hours/credits for their work with elders).
- **Encourage the use of Lifeline among Elders,** including referrals from the hospital, instructional demonstrations at the senior centers
- **Make home assessments available to all seniors,** not just patients being serviced by the VNA after a hospital stay or by referral. This would be especially helpful if the service were advertised in the paper so that shut-in's had access to this service

### III. Patching The Cracks: Final Recommendations

- **Nutrition and hydration education** - many professionals on the island commented on orthostatic hypotension in dehydrated elders being a major factor in falls

## IV. Using Macro to Address Micro:

“...improve the health of the elderly by preventing injuries, reducing risks, managing the problem, and improving the well-being and self-sufficiency of individuals, organizations, and communities.”

# **Bridging the Gap:**

Embracing the Planetree Model of Care-  
Collaboration between the Hospital and Providers  
in the Community.

# Identify Point Person/Group.

- Need organization that is outside of hospital that coordinates all MV elder healthcare and services.
- Why outside of hospital? Avoid conflict of interest and potential legal issues.
- Why have point person/group?
  - Recognize redundancy and facilitate better use of island resources.
  - Easy resource for providers, elders, caregivers.

# Educating Healthcare Providers

## Grand Rounds Seminar Series on Caring for Elders

- Important questions to ask elderly patients as a provider.
- Improve knowledge of available services.
- How to direct elderly to the appropriate services.
- Extend invites to those working outside the hospital (PTs, wellness practitioners, etc.), facilitate collaboration and learning between groups.
- Name tags for all participants at seminar including one's professional role in the community or organization.
- May consider using external speakers/experts on occasion to attract a wider audience and bring in new ideas.

# Elder Health Forum

- Meeting of all island organizations, groups, and individuals involved with elder care and support services.
- Divide day into specific blocks: food and diet, exercise and wellness, etc.
- Each provider will have 5-10 minutes to present in their block on what they provide for the elder community.
- Round table discussions for each block and then as a large group after the presentations.

**GOAL=** facilitate dialogue, recognize overlap, and encourage collaboration and better use of resources for elder care on the island.

# Bringing Everyone Together:

## The Self-Care Guide and Discussion Group

# Self-Care Guide to Ageing on MV

- Complement to caregiver's guide.
- For use by elders concerned about their future, want to be informed and healthy individuals.
- For seniors new to the community and those that have always lived here.
- Use some of the information from the caregiver's guide, but more of a guide and less of a reference book.
- Large text for the vision impaired.
- Includes different chapters focused on elderly health and well-being on the island.

# Self-Care Guide Layout: Potential Chapters and Potential Authors.

1. Changing Physiology of the Ageing Body (ex. % of fat)  
*Dr. McMahon*
2. Finding a New Identity- Philosophical Questions of Getting Older.  
*Hospice*
3. Services on the Vineyard for Elders.  
*Elder Services, COA*
4. Staying Active, Staying Strong- Fall Prevention Strategies.  
*CAM Providers, Exercise Instructors, Nutritionist.*
5. Embracing/Finding Community.  
*Church Groups, COA, Performing and Visual Arts Groups  
(chorus)*
6. Medication Management: Understanding Your Prescriptions. (Follow up with  
Brown Bag Event)  
*Island Pharmacist*
7. Mental Health and Substance Abuse.  
*Local counselors and consult with MGH geriatric  
psychiatrist*

# Example Chapter Questions:

...to encourage thought/discussion/writing

- What scares you the most about getting old?
- What services do you use the most? What would you like to learn more about?
- Do you feel supported by the community? Are you finding community?
- Is there something you don't understand about changes in your body as you age?
- Is your healthcare provider doing an adequate job addressing your concerns and teaching you about your changing body?

# Self-Care Discussion Group

- Use the guide as a "text".
- Have trained facilitator to guide discussions on each chapter topic and questions, create safe space for sharing and learning.
- Meet once a week at COA.
- Correspondence option for homebound elderly, would meet with someone in the class on weekly basis to go over what was discussed in the group.
- Awareness of vision, balance, hearing impairments of participants. Try to best accommodate everyone involved. (Facilitator repeats when necessary, handicapped accessible meeting locations)

# Potential Benefits of the Self-Care Guide/Group:

- Provide emotional and social support for elders by other elders.
- Reach out to elders new to the community and those that are home-bound.
- Encourage elders who have not yet experienced an "emergency event" to take ownership of their health and well-being, plan for the future (the middle group could facilitate).

Pool the island resources by having different groups write chapters in the guide.

# So, what about falls?

- Strengthening the support system within the elder community...
- Making resources and services more accessible by establishing a point person/group...
- Education and collaboration between healthcare providers inside and outside the hospital...

= Fewer accidents, fewer falls.

# An Abbreviated Thanks

We would like to acknowledge the entire Martha's Vineyard Community for their generosity in taking time out of their exceptionally busy schedules to respond fully to our inquiries.

A special thanks goes - naturally - to the wonderful people who happen to be members of the Dukes County Health Council, and who had a particular impact on the quality of our experience in the Island, going out of their way to make us feel welcome, involved, and provided for.

This project has been a wonderful chapter in our educations, and we hope our work will help make Martha's Vineyard a healthier, safer place for a community to grow old: together.

Thanks for sharing your island with us.



# Useful Links

- [www.escci.org](http://www.escci.org) elder services group of 500 volunteers from Cape and the islands offering volunteer services/crisis interventions for elders
- <http://www.ext.colostate.edu/Pubs/consumer/10242.html>
- <http://www.elderweb.com>
- [http://www.ehow.com/how\\_2255718\\_help-elderly-prevent-falls.html](http://www.ehow.com/how_2255718_help-elderly-prevent-falls.html)
- [www.vineyardvillage.org/sitemap.html](http://www.vineyardvillage.org/sitemap.html) click on the councils on aging there are lists of services from each town