



ISSUE BRIEF

The Massachusetts Health Policy Forum

Keeping Elders Home: New Lessons Learned About Supporting Frail Elders in Our Communities

Omni Parker House Hotel
Tremont and School Streets
Boston

Wednesday, December 2, 2002
1:30 to 2:00 - Registration and Refreshments
2:00 to 4:30 - Presentation and Discussion

Moderated by: **Harriet Tolpin**
Dean Emerita,
Graduate School for Health Studies, Simmons College

A panel discussion featuring:

Hope Watt, LICSW, Ph.D.
Director, Behavioral Health and Research, Committee to End Elder Homelessness

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President and CEO,
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Scott Plumb
Executive Vice President,
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Massachusetts House of Representatives

Secretary Robert P. Gittens
Executive Office of Health and Human Services

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This Issue Brief was prepared by Elisabeth D. Babcock, MCRP, Ph.D., President and CEO of the Committee to End Elder Homelessness (CEEH), and Hope Watt, MSW, Ph.D., CEEH's Director of Behavioral Health and Research. Their research was supported through a grant from the Farnsworth Foundation, and its publication supported through the Robert Wood Johnson Foundation.

Executive Summary

The following Issue Brief reviews some of the policy implications of managing the care and costs of very frail and high-risk elders in our communities. In particular, it looks at ways in which frail elders can obtain the much-desired outcome of aging with dignity and independence without incurring high costs to Medicare and Medicaid. Although many programs have attempted to stabilize or improve outcomes of frail elders at the same time that they efficiently managed their use of high-cost health services, few have met with success. Medicare+Choice managed care plans were never really designed to serve the chronically ill and frail and have not been successful at controlling costs with this population. For a variety of reasons, Massachusetts programs designed to serve frail elders such as the Program of All Inclusive Care for the Elderly (PACE) and Senior Care Options (SCOs) have proved difficult to administer (in the case of the former) and difficult to implement (in the case of the latter).

This paper examines other possible options for Massachusetts. In particular it examines a model of supported housing/assisted living developed by the Committee to End Elder Homelessness (CEEH). Results of an outcomes and utilization study of CEEH residents found that although these elders were significantly more frail and complex than the average aged 65+ elder. In spite of this fact, CEEH residents not only stabilized, but also showed improved outcomes during the study period. Many CEEH residents formerly had been residents of long term care (LTC) and were still LTC-eligible. However, this population also showed improved outcomes during the study period at a predicted lower cost to Medicaid than under LTC. The entire CEEH

population showed lower hospital utilization rates than projected for high-risk Medicaid elders.

This Issue Brief includes a recommendation to consider Medicaid funding of supported housing/assisted living through expansion of the Group Adult Foster Care program as a possible vehicle for the replication of CEEH findings.

Policy Context

Description of Supports for Frail Elders

Ours is an aging society. Although the under-65 population of Massachusetts is expected to remain relatively stable at a little over 5.5 million over the next 25 years, the population of those aged 65+ is projected to increase by 46% (from 860,162 to 1,252,000) in the same period (Census 2000; MISER).

Although many elders live very healthy and active lives, with aging also comes increased illness and frailty. In Massachusetts, 38% of non-institutionalized elders* claimed to have a disability (Census 2000). Almost 6% of Massachusetts elders are in nursing homes (Dembner, 2002) and their rate of hospitalization averaged 37% in 2001 (Massachusetts Health Data Consortium, 2001).** Nationally, 11.5% of those aged 65-79 and 34.1% of those aged 80+ need regular personal assistance with their daily care (e.g. bathing, dressing, eating, walking, toileting (Merlis, 1999).***

The increase in the numbers and longevity of elders poses significant costs to the society and families who must support them. The Congressional Budget Office estimated average federal per capita spending on elders in 2000 at \$17,700. These spending figures included expenditures such as social security, other federal/state retirement payments, Medicare/Medicaid, housing assistance, and social services (Congressional Budget Office, 2000).† Social security expenditures comprise approximately 50% of federal spending on elders and elderly health benefits comprise an additional 38%. The balance of federal elder expenditures

(12%) is for social supports and housing. Federal spending on elders represented approximately one-third of the federal budget in 2000 and is expected to climb to forty-three percent by 2010 (Congressional Budget Office, 2000).

State and local governments also spend for the care of elders. The single largest state/local budget allocation for elders is Medicaid. Over 8% of the Massachusetts 2002 budget will have been spent on Medicaid (MassHealth) services **for elders**. Elders represent 12% of MassHealth recipients and account for 37% of MassHealth expenditures; the average expenditure per MassHealth senior was \$17,515 in 2001. This figure was more than five times the cost of the average MassHealth family recipient (Quigley, 2002).

As Table 1 shows, MassHealth senior benefits were disproportionately skewed toward long-term care.

In addition to medical supports, states administer federal and state-supported social services to frail elders such as meals, assisted transportation, adult day care, homemaking and personal care.

In CY 2000, 12,512,319 units of such services were provided in Massachusetts by 841 providers at a total cost of \$50.4 million (US Administration on Aging, 2001).

Elders are also disproportionately large consumers of publicly funded housing. Although those 65 and older represent only 12% of the population (13.4% in MA), they make up nearly one-third of the residents in public housing, use more than one-half of Section 8 rental assistance (either voucher or project based) and also

* Unless otherwise described, in this Issue Brief the term “elder” will signify a person aged 65 or over.

** The hospitalization rate described is derived from the number of hospitalizations of MA residents aged 65+ divided by the number of MA residents aged 65+ for 2001.

*** An elder who requires regular support in order to perform the routine Activities of Daily Living (ADLs) just stated, or Instrumental Activities of Daily Living (e.g. shopping, house cleaning, cooking) is referred to as “frail.”

† Medicare is the federal health insurance program for the elderly and Medicaid is the state health insurance program for the poor (including poor elders) funded by both state and federal dollars. In Massachusetts, the federal and state share is approximately 50% for each.

Table 1: Distribution of MassHealth Senior Benefits*

Senior Benefit Provided	Percentage of Senior MassHealth Payments
Long Term Care Facilities	75%
Acute Care Hospitals	1%
Pharmacy	11%
Community Based Care [†]	5%
Professional Services	1%
Medicare Crossover Payments	6%
Ancillary/Support Services	1%

Source: Quigley K, Shelto A, Turnbull N. *MassHealth: Dispelling Myths and Preserving Progress. Massachusetts Health Policy Forum, 2002.*

* All figures exclude capitation payments to MCO and The Massachusetts Behavioral Health Partnership.
 † Community-based care includes community health centers, community based mental health service and community based longterm care. This figure also excludes expenditures for elders on the Home and Community-Based Services waiver, which was \$13.9 million in expenditures in 2001.

occupy more than 300,000 units of Section 202 housing specifically for the elderly nationally (AHRQ, 2000).

Beyond governmental support, most frail elders also receive support from their families and friends. The vast majority of community-based supports for Activities of Daily Living (ADLs) and Indirect Activities of Daily Living (IADLs) of frail elders come from this source.

Support Needs of Frail Elders

Overall, this review of just a few of the resources allocated by federal, state, and local governments, as well as families, to the care of elders, indicates that their care is a huge social and financial commitment. Other than direct payments such as retirement benefits, the most significant public dollar expenditures for elder support come through the medical payments systems of Medicare and Medicaid. The budgets for these two programs dwarf all other budgets for elder housing and social supports.

But is medical care the single most important resource to support successful aging? And more

importantly, what is successful aging? When elders are asked questions about what it means to grow old with dignity or success, most respond in terms of independence and functional status. They say that they want to be able to, “keep on living in my home,” “not be a burden to others,” “do for myself,” “not be disabled or really ill,” and “not be in pain.” They do not speak in terms of diagnoses and treatments. However, the largest payer (Medicare/Medicaid) for their supports speaks in nothing else.

- o Although having feet that hurt can grind the daily activities of an elder to a halt, the only way that an elder can receive foot care under our systems of payment is with a medical diagnosis such as diabetes that then triggers a medically justified treatment of routine foot care and payment for this care under Medicare/Medicaid.
- o When an elderly woman must share a bed with her incontinent husband, she may become so sleep deprived that she can no longer care for her spouse. When this happens, she or he will become so debilitated that one will finally qualify for hospital or

nursing home care. This will be paid for by the medical systems of Medicare/Medicaid, but the twin beds with rubber sheets the elderly woman wanted but couldn't afford to buy will not be paid by public supports, even though the beds would be a fraction of the medical cost and would allow both to continue living in their home.

- o An elderly man who has limited mobility may be financially able to buy his medications and groceries, but without a regular source of affordable transportation, he may run out of either. When he does not have proper nutrition or compliance with his medication regimen, he will then become sick enough to qualify for an ambulance and medical care. Medicare/Medicaid will pay for that ambulance and that care, but it is clear that the uncovered benefit of an assisted ride to the grocery or pharmacy would be a much less costly benefit.

In order to, “keep on living in my home,” “not be a burden to others,” “do for myself,” “not be disabled or really ill,” and “not be in pain,”—in other words, in order to successfully age—elders need more than medical supports. They need coordinated mental health (behavioral), social services, and housing supports as well. Anyone who has cared for a frail elder friend or family

member knows this, but it is a very difficult concept to translate into social policy.

When elders cannot get essential transportation, nutrition, home supports and social services, when they cannot fully access their own homes or apartments, or logistically manage cooking, bathing, or housework within them, when they are isolated or lonely, or when they have substance abuse, confusion, forgetfulness, or other behavioral problems, the default outcome is that they become more frail and ill. The single largest payer for elder services, Medicare/Medicaid, is then the default payer when elders use physician offices, emergency rooms, hospitals, and long term care facilities (LTC) such as nursing homes.

Elders have a clear preference not to become frail and ill, so heavily utilize their own resources to prevent this from happening. Those with family and friends likely draw upon them extensively for support (see Table 2). Those who have the financial wherewithal pay privately for transportation, housekeeping and adaptive housing. This fact is evidenced by the huge growth over the past decade of private payment for assisted living. Assisted living facilities have exploded by 500% over the past decade. In 1990 there were fewer than 30 assisted living facilities in Massachusetts; that number is now more

Table 2: Sources of Personal Care for Frail Seniors

Relationship of First Helper to Recipient	Percentage of Assistance Received
Spouse	27.9%
Daughter	18.3%
Son	12.7%
Parent	8.6%
Other relative	13.2%
Non-relative	10.9%
Paid help	8.5%

Source: Merlis, M.. “Caring for Frail Elderly: An International Review.” *Health Affairs*; 19(3), May/June 2002.

than 150 providing over 9000 units of housing (Massachusetts Division of Health Care Finance and Policy, 2001). However, these units have been built almost entirely to serve residents with the personal ability to pay the average monthly charge of \$3,500 or more (\$42,000 + annually) for Massachusetts assisted living.

Although programs such as Medicaid's Group Adult Foster Care program (GAFC) and Social Security's plan for income supplementation in assisted Living (SSI-G) may be used by the very poor to help pay for assisted living, the combined payments under those programs still total below \$2,100 per month—an amount far short of the true cost of assisted living.*

Most elders are without the ability to pay privately for such care. Nationally, less than 15% of elders have annual income to support such charges (U.S. Admin. on Aging, 2001). The average Massachusetts elder living alone had a total annual income of between \$14,328 (women) and \$17,974 (men). Almost 9% of Massachusetts elders are living below the poverty line and of those elders who are living alone, almost 18% are below poverty (Census 2000).** It is clear from such numbers that assisted living is an option that has remained well out of reach of even the average elder, never mind the poor.

As has been stated earlier, when elders cannot pay for the supports they require to remain healthy, independent, and residing in the community, they rely on public programs and the support of family and friends. However, many elders are very isolated, lack family and friends, have disabilities (physical, mental, emotional) that limit their access to community-based elder support programs, or do not qualify (usually based on income or assets) for such programs.

The most extreme example of such isolated elders are those who are homeless. The elderly

homeless nationally comprise approximately 29% of users of homelessness services (HUD, 2000). In Boston, 9% of those in shelters and approximately 18% of the homeless are over age 55 (U Mass, 2001; City of Boston, 2001; MHSA, 2001).

Distortions Caused by Unmet Needs

There is an extensive array of supports for frail elders. Health care, housing, mental health, and social supports are provided to frail elders by friends and family, the government, and through private payment by the elders themselves. These supports represent a significant and growing commitment of financial resources. Federal spending alone on elders is currently more than 6.4% of the entire US Gross Domestic Product (GDP) and is projected to rise to 7.1% by 2010 (CBO, 2000). And long term care spending could more than double to 2.44% of GDP by 2030 (Merlis, 1999).

The implications for state spending created by such growth are significant. Long term care spending by MassHealth is equivalent to 6% of the state budget (Quigley, Shelto, Turnbull, 2002). If such spending were to double as projected by the Commonwealth Fund, it could require 12% of the state budget to provide these services as the full impact of the baby-boom cohort is felt (Merlis, 1999).

If current trends hold, the additional burden of the growth in frail elders' demand for LTC will not be paid by private sources. The Massachusetts Division of Health Care Finance and Policy informs us that, "Between 1990 and 1999, the population of Massachusetts residents ages 65 and over increased 5%, but the total number of nursing home days declined 3%." Also, during this period, private paid days in LTC dropped from 20.2% to 16.2% (Mass Division of Health Care Finance and Policy, July 2001). LTC facilities experienced an increase in patient

* GAFC and SSI-G are available only for those seniors with income low enough to qualify for Medicaid.

** In 2002, an individual living below the poverty line has an income below \$738.33 per month (\$8,860 per year) (Federal Register, 2002).

acuity as hospitals began discharging patients sooner (due to the impacts of the Federal Balanced Budget Act of 1997) and while Medicaid days paid remained relatively stable at a little over 70% of LTC days, Medicare experienced an increase in LTC days paid in Massachusetts comparable to the decrease in private payment (Massachusetts Health Benchmarks, 2000).

The decrease in private payments for LTC directly coincided with the boom in development of assisted living as an option for the wealthier senior. As wealthier seniors and their families had this new option for care of the frail elder, fewer chose LTC as their mechanism of support.

Generally, elders prefer to remain in as independent a setting as possible. When they have the private means to pay for community-based supports, they will do so. When they have family and friends to support them, they will use them. But when they are poor and isolated, as they become more frail, it is difficult for these elders to obtain and coordinate the supports they require to remain in the community.

If they lose their housing due to tax or rent increases beyond their fixed incomes, or they incur a disability that makes them unable to reach the third floor of their apartments, or they can not or do not shop or prepare nutritious meals, if they become confused or have a substance abuse problem, the downward spiral begins. And in many cases, the only option open to pay for their housing, nutrition, mental health, social isolation, or transportation-induced problem is hospitalization or LTC placement. Institutional care is the only place where there is an established integrated system to pay for elder meals, a bed, chore services, protective services, public safety, medications, mental health supports, medical care, and case management. It is the default locus of care when any gap in services for the poor becomes so great that an illness or significant frailty results.

Therefore, even though there were significant reductions in the total number of LTC days in

Massachusetts during the 1990's, the number of LTC beds in Massachusetts (5000 LTC beds lost in Massachusetts over the past four years), and the average length of stay in LTC (average of 2.5 years in 1980 now down to less than one year), there have been increases (12% from 1998-2001) in state Medicaid LTC expenditures (Plumb, 2002; Quigley, Shelto, and Turnbull, 2002).

Previous Policy Approaches

The growing ranks of frail elders and their needs for integrated community-based supports have certainly not escaped policy-makers. It has been increasingly apparent to those interested in designing cost-effective programs for frail elders, that as those programs encompassed not just medical treatment of disability and disease, but prevention of such complications, they would be more likely to produce good outcomes at low cost.

Since the primary payment source for care for frail elders has been medical reimbursement, the focus has been primarily on the medical system to provide the new systems of care. During the 1980's and 90's, policymakers had very high hopes that managed medical care through capitated HMO's (Health Maintenance Organizations) would curb not only the escalating medical costs of America's children and adults, but also those of America's elders. Medicare instituted waiver options that allowed elders to transfer their Medicare benefit to an HMO. Under these options, Medicare would pay a monthly fixed reimbursement to an HMO for each senior the HMO enrolled. It was anticipated that the HMOs would effectively "manage" the utilization of senior members by offering health education, prevention, and medical management programs that would decrease seniors' use of high cost medical in-patient care.

However, the expected savings never occurred to the degree necessary to cover the high costs and complexity of putting the managed care systems into place. Even the most efficient HMOs had administrative overhead costs of

11% or more. And how were hospitals to save money under managed care? The only way they could was by developing vertically integrated corporations that owned or contracted with physicians who could “enroll” patients insured by the HMOs. In this manner, the savings that accrued to the doctor for not hospitalizing a patient could then be shared with the hospital in the same corporate system. However, building these large corporate systems cost money. Running the capitated programs of care required additional overhead for the provider systems, and although hospital days did decrease, they never decreased enough to offset the additional administrative costs. By the end of the 1990’s, most provider systems found that they were losing huge amounts of money on capitated care of the elderly. Many provider systems thus began to refuse Medicare capitation with HMOs.

Medicare HMOs also started closing, and those that remained in business significantly changed their reimbursement structures. Although in the 1990’s elders could enroll in a Medicare HMO at no charge to the elder (the full cost being paid by Medicare), most Medicare HMOs now require an additional co-payment from the elder of between \$80-\$150 per month.

There are no data that conclusively prove vertical integration of health care saves enough money through more effective management of elderly patient care to offset additional costs. In other words, to date we have not seen that aligning physicians, hospitals, and nursing homes into large systems significantly improves the efficiency or effectiveness of elder care. There have been encouraging individual examples of disease management programs, but none with large enough impact to radically change the escalating costs of elder care. For poor elders who were eligible for not only Medicare benefits, but Medicaid as well, the Program of All Inclusive Care for the Elderly (PACE) has often been cited as a potential solution to the escalating costs of frail elders.

PACE is a nationally waived Medicare capitation program for nursing home-eligible elders that allows states to then capitate the Medicaid benefit as well. The national average per member per month Medicare capitation in CY 2000 was \$1,321 and Medicaid capitation was \$2,422. It is expected that these rates represent a 5-15% savings in expected costs to both state and federal government for this population. There are 36 PACE sites nationally serving approximately 8,500 elders. Six of these sites, with more than 1150 enrollees, are located in Massachusetts (MedPac, 1999; OnLok, 2002; National PACE Association, 2002).*

The first capitated PACE model site was developed in 1979. Given that this is a model of care with a very long history, widely reputed quality of care, coupled with apparent elder satisfaction and cost-savings, why has it remained such a relatively small program? The answer is very similar to the issues raised by elder managed care in general: PACE is a very complex model of care. It is financially risky to the provider, it is administratively complex to establish and maintain, and potential reimbursement rates are usually too low to justify the risk.

Also, most PACE programs have found that in order to prevent nursing home placement, they must find a way (through collaboration or their own development/ownership) to provide supported housing or assisted living for their clients. This adds yet another layer of complexity to providing services for PACE clients. Although PACE providers are clearly permitted to pay for LTC, they have been advised that PACE direct payments for housing costs could constitute what amounts to supplemental income for their enrollees thus jeopardizing the enrollees’ Medicaid (and therefore PACE) eligibility (Elder Service Plan, 2002; Burrage, 2000).

Massachusetts has also attempted for many years to implement an expanded care management program called Senior Care Options

* The six PACE programs in Massachusetts are: Elder Service Plan (ESP) of the Cambridge Hospital; ESP of Harbor Health, Dorchester; Upham’s ESP of Dorchester; ESP of East Boston; ESP at Fallon, Worcester; ESP of the North Shore, Lynn.

(SCOs) for Medicaid elders. This is a program initiative that was begun under the Weld administration and has been an attempt to bring up integrated systems of care delivery that would manage the care of Medicaid/Medicare seniors through the integration of community-based medical and social services. Under the SCO, local Aging Service Access Points (ASAPs) would provide case management services integrated into outpatient primary care physician's offices in order to provide preventive social supports that would deter the need for higher cost medical institutional care.

Although it would appear that the SCO begins to address the need for more integrated approaches for the care of frail elders, to date it remains an unrealized dream. Even though planning for SCOs was begun by the state in the early 1990s, they are still not operational. One reason for this is that they are very complex to implement. In the early stages of the process, the state sought a federal waiver for the program. Division of Medical Assistance authority for the program required approval from the state legislature, which they granted in 2002. They also require contractual collaboration between different levels of care, including hospitals and physician, and a substantial up-front financial reserve by the provider systems. Further, the systems must be prepared to pay the additional overhead costs the new program requires for documentation, administration and compliance. Finally, the systems must be willing and prepared to contract for case management with an organization external to their system, the local ASAP.

These difficulties are not unique to Massachusetts. Other states and even countries have also been grappling with how to contain costs and improve outcomes while caring for frail elders. Generally, in most industrialized economies, medical care for frail elders is a national program and social supports and housing are provided under state and local benefits. This separation of funding streams and the distortions it causes has caused some nations to develop and fund expanded community-based options for the care of frail elders. For example, in Germany,

those elders meeting a functional status screen showing a need for assistance with ADLs, are permitted to receive a cash payment to choose their own support service providers. In Denmark, all elders receive twice-yearly assessment and care-planning visits to assess the need and coordinate community-based supports. New Zealand has also taken such steps, and Great Britain is now planning for cost-sharing between national and local levels of government to integrate social, housing, and medical services for frail elders (Merlis, 2000).

In the U.S., many states participated in the managed care expansion of the 1980's and '90's by introducing capitated options for Medicaid seniors. Most of these state-sponsored plans have met with the mixed success outlined above. States have also tried some innovative plans for LTC of seniors. For example, New York has initiated a pilot capitation program for nursing-home elders that integrated LTC and medical systems. Review of this program by the Urban Institute showed that the participants seriously underestimated the time and costs necessary to establish the program and the provider networks. The complexity of patient needs and how poorly standard screening mechanism project future utilization (especially for patients with mental health issues) was "surprising" (Liu; 2001). The difficulties of managing patients throughout the different levels of emergent, acute, subacute, and community-based care were also noted.

Overall, reviewers recommended that any future providers consider the following issues before embarking on program design for the nursing home-eligible elder:

- o Beware the significant up-front costs of staff and resources to establish systems of care;
- o Beware the difficulty of marketing such a complex program to seniors;
- o Case management is central to success of any program for frail elders;
- o Program flexibility creates cost savings. Use of social/environmental services saves money in acute and long term care episodes;

- o Programs should look to measure quality of care/outcomes;
- o Settings affect program design. Service areas with dense populations can foster efficiencies in service delivery (Liu, 2001).

Similar conclusions were echoed by Dr. Nancy Whitelaw in her review of community based elder service programs such as the Community Based Residential Facilities program of Illinois. She recommends centrality of case management, combination of funding sources, and partnership between housing and services (Whitelaw, 2000).

Necessary Policy Components for Frail Elder Programs

In order for a policy approach for frail elders to be successful at containing costs while improving outcomes, the above discussion indicates that the policy should have the following program components:

- o Target the population at most risk for using high cost long term care and acute medical services;
- o Permit those elders to remain in the community with as much independence as possible;
- o Be administratively simple for both providers and payers;
- o Provide a benefit preferred by the target population and therefore be easy to market and foster public/political support;
- o Allow for flexible integration of housing, social, medical, and mental health supports and payments;
- o Save significant dollars for payers at the same time that little financial risk is assumed by the providers;
- o Be efficient: take advantage of dense program design to provide economies of scale in service delivery;
- o Demonstrate successful outcomes in main-

taining self-sufficiency, well-being, and health and mental status of elders served;

- o Be replicable (easy to reproduce);
- o Be scaleable (easy to size for large numbers of elders).

Description of CEEH

In 1991, alarmed by the rapidly increasing numbers of homeless older people in the Boston community, seven women with extensive professional experience in housing, health, mental health and social services founded the Committee to End Elder Homelessness, Inc (CEEH). The primary mission of CEEH is the eradication of elder homelessness through the provision of permanent housing and appropriate support services. This mission is accomplished through a unique blend of prevention, placement, and housing programs all designed to help elders find and succeed in homes of their own. All housing operated by CEEH provides a creative array of supportive services that assist residents to age with dignity, regardless of their special medical, mental health, or social needs. CEEH believes these goals are best accomplished through respect for elders and staff, with the desire to see both achieve their highest degree of potential.

CEEH is the only known organization of its kind in the United States. Since its inception, CEEH has grown into a \$3.5 million agency providing a continuum of services that now includes five affordable, permanent housing sites with supportive services, an extensive outreach program and integrated health services and wellness programs. CEEH's value system has centered on three major beliefs:

- o Having a home is crucial to the success of all other services for older adults,
- o Solving the problem of homelessness must focus on creating, integrating and coordinating resources in a manner that not only provides solutions to the problems of home-

less individual elders, but also intervenes at a community level to prevent the crisis of homelessness for at-risk populations, and

- o Stabilized supportive housing environments not only provide a key framework for integrating restorative health services, but also provide stepping-stones for enhancing personal growth and autonomy.

Accomplishments of the Committee to End Elder Homelessness include:

- o Bishop Street House (opened 1992) Creation of a shared living house in Jamaica Plain for nine formerly homeless women, supported by an overnight manager and other appropriate staff and services.
- o Elder Shelter to Home Program (opened 1995) Expansion of the Committee’s existing Outreach Program to identify, evaluate, and advocate for homeless elders or elders at risk of becoming homeless. By fall 2002, the Program identified and assessed over 1,500 elders and provided assistance in housing placement and follow-up stabilization services for 400 elders.
- o Anna Bissonnette House (opened 1997) The award-winning apartment complex in Boston’s South End for 40 formerly homeless older men and women. Supported by an overnight manager and other appropriate staff and services.
- o Ruth Cowin House (opened 2000) Restored brownstone on Beacon Street in Brookline with individual apartments for nine formerly homeless

elders, supported by appropriate staff and services.

- o Ruggles Affordable Assisted Living Community (opened October 2001) Collaborative development of the first affordable Assisted Living Facility in Boston, exclusively for low-income frail elders. Forty-three apartments with 18 prioritized for homeless elders. Managed by CEEH and supported by all required services and amenities.
- o ElderHouse (opened March 2002) Sponsorship of a mixed-use development in Uphams Corner, Dorchester for fourteen homeless elders, managed by CEEH and supported by appropriate staff and service.

CEEH provides a unique holistic, interdisciplinary staffing model (Figure 1) for each of its housing sites. This model combines the expertise of health, mental health, housing and activity disciplines to address the multiple medical, psychiatric and social needs of the frail and complex elderly tenants.

Each CEEH facility has an interdisciplinary team consisting of the site director, nurses, social workers, activity staff, homemakers, and residential assistant personnel for the facility. Most of the interdisciplinary team members work full time at the given residence. Each resident is assigned one professional from the team to serve as the primary case manager for his/her case. If the resident has significant mental health issues, the case manager is likely

Figure 1: CEEH Staffing Model

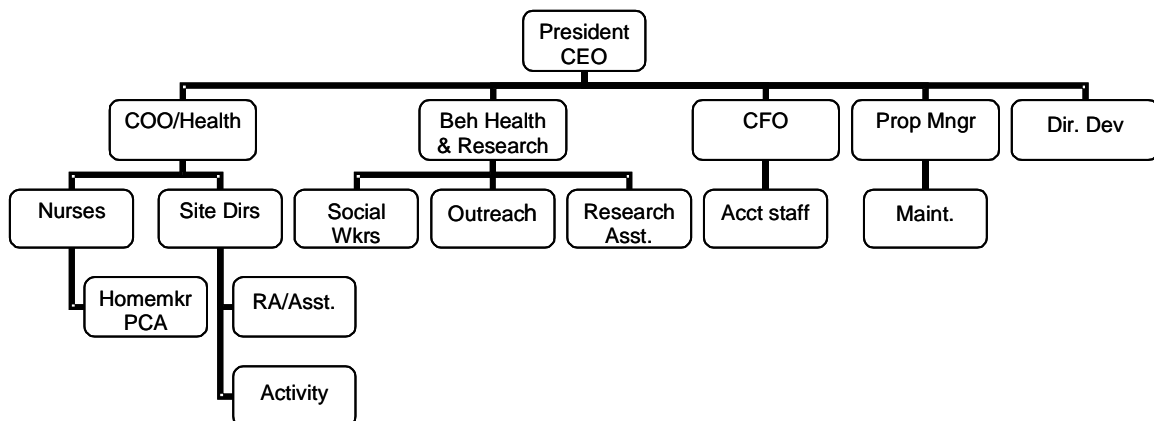
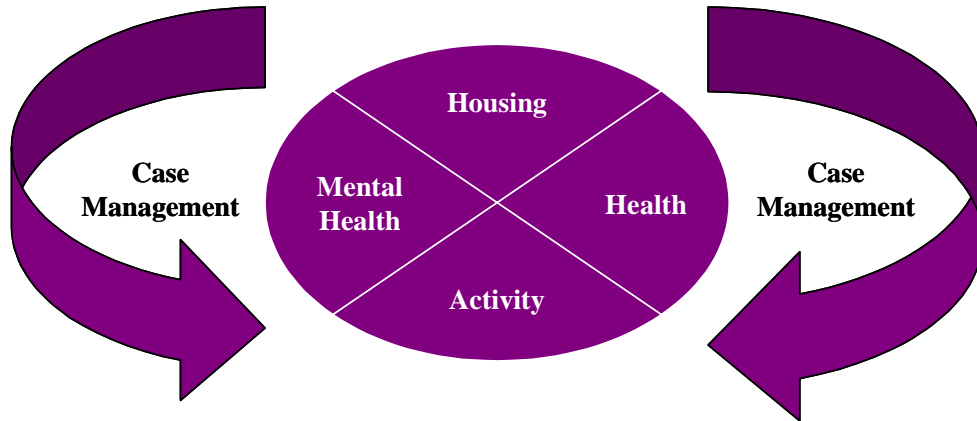


Figure 2: CEEH Case Management Model



to be a social worker; if the resident has significant medical problems, the case manager is likely to be a nurse.

The primary case manager for each resident maintains the care plan for each resident, meets consistently with the resident, and leads the regular team discussion, evaluation, and management of the resident’s care. The result is case management of interdisciplinary care giving for all residents as the primary model of care.

The following are examples of how a case management model of care at CEEH addresses each area of need for our tenants:

Housing

Tenants may have difficulty in the management of their finances, which hinders them from paying rent and threatens their tenancy. Such tenants receive case management services from a housing manager and social worker to develop a plan for payment of rent to secure their housing while being referred to “money management” services through the local Area Service Access Point (ASAP).*

Mental Health

Tenants who suffer from mental illness may become self-isolating, resulting in neglect of

self-care, exacerbation of mental illness, and medical complications. These tenants receive case management from a social worker, nurse and activity coordinator who establish counseling services, medication compliance and promote socialization, respectively. Ultimately, a psychiatric hospitalization may be prevented and there is improvement in the health and well-being of the tenant.

Health

Tenants with multiple medical problems that limit their daily functioning may be hesitant to seek medical care. These tenants receive case management from a nurse who monitors their medical condition, schedules their medical appointments and institutes daily care (Group Adult Foster Care)** from a personal care homemaker. Ultimately a medical hospitalization is prevented and the continuity of care provides for improvement in health outcomes.

An example of the effectiveness of this case management model is as follows:

Mr. Jones is a 76-year-old previously homeless man who has recently moved into a CEEH supportive housing residence. While fairly independent, he is now dependent on oxygen and complains of shortness of breath. Most recently this had culminated in multiple weekend visits to the emergency room with complaints of short-

* ASAP is inclusive of local elder service providers.

** GAFC requirements include assistance with an area of daily living a minimum of once per day.

ness of breath, but with unsubstantiated findings. In the interdisciplinary team care plan meeting the site nurse was able to educate the staff on his particular symptoms and to devise a schedule of more intensified nursing assessments. In addition, the homemaker revealed that Mr. Jones complains of being quite anxious on the weekends. As a result of this information a regular weekend contact with Mr. Jones was integrated into the care plan by the social worker to promote socialization and subsequently decrease his anxiety. The homemaker was identified as the primary contact for this intervention due to her positive relationship with the tenant. Consultation with the social worker and the nurse directed the homemaker in monitoring his level of anxiety and his breathing complaints throughout the weekend. Clinical staff followed up on the homemaker's reports during the business day. Immediately following the implementation of this case management model of care, there was a remarkable decrease in Mr. Jones' weekend emergency room use and in his reported anxiety level.

The cost of CEEH housing and services are paid by a combination of public and private sources. Housing at most facilities is paid through standard affordable housing programs for the poor such tax credit and Section 8 programs where the resident pays one-third of their income for rent and the balance of rent is paid through the rental subsidy program. Supportive services for residents (described in the team-model above) are paid through a combination of payments from residents' fees (assisted living only), Federal HUD case management dollars, Department of Mental Health contracts, Group Adult Foster Care (Medicaid), Executive Office of Elder Affairs, and private philanthropy

(approximately 15% of annual budget). The service costs for the average resident under this model range from \$1,500 to \$2,250 per month.*

Research Process

Out of a desire to improve the effectiveness of its systems of care and to understand the impact of its care upon resident outcomes, CEEH began a process of resident outcomes analysis in 2001. Funded by the Farnsworth Foundation, this research project is examining the effectiveness of the CEEH housing and service model on residents' health care utilization, physical and emotional functioning, mental reasoning and cognition, social integration, and well being. All outcomes were measured using standard assessment tools that have been demonstrated to have a strong degree of reliability for elders and most of the survey tools are benchmarked for average elder populations.

Domains studied and survey tools used in CEEH research are described in Table 3. (Additional explanations and validity of tools used in CEEH research are provided in Appendix A.)

CEEH Population Description

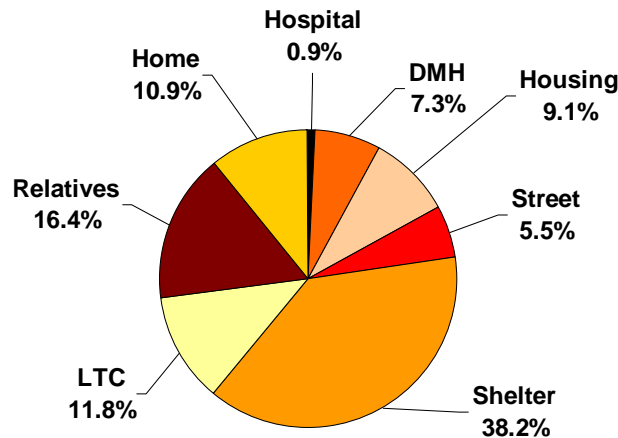
There are currently 110 CEEH residents participating in this study. The majority of the respondents (38.3%) are between the ages of 65-74. Males comprise 51.8% of the respondent

Table 3: CEEH Research Tools

Domain Studied	Survey Tool Used
Physical and Mental Functional Status	SF36 Health Survey
Social Integration	OARS (Older Americans Resource and Services scale)
Mental Reasoning and Cognition	MMSE (Folstein, Mini Mental State Exam)
Resident Satisfaction	LSIA (Life Satisfaction Index A)
Hospital Utilization	CEEH resident records

* Service costs for residents with extreme Mental Health needs may be slightly higher.

Figure 3: Prior Residence



sample. Blacks comprise 51% of CEEH tenants, with 41% white, and the remaining subset Hispanic (4%) and other (4%). Due to the recent opening of two new sites, the majority of the tenants in this study have resided at CEEH for less than one year (51.8%). In examining the prior residence of the respondents we find that 43.7% resided in a shelter or on the streets, with the remaining tenants living with family or institutionalized prior to living at CEEH (see Figure 3).

To describe the level of medical and emotional frailty of the tenants at CEEH one must examine

the medical and psychiatric diagnosis of this population of elders. A significant percentage of the CEEH tenants (92%) suffer from multiple chronic illnesses.

As Figure 4 indicates, the most prevalent chronic illness of this population of tenants is that of mental health and dementia, followed by those tenants who suffer from an array of chronic health conditions. Currently 47% of our tenant population is receiving psychiatric services, and 30% of our tenants are Department of Mental Health (DMH) clients.

Figure 4: Percent of Residents With Condition

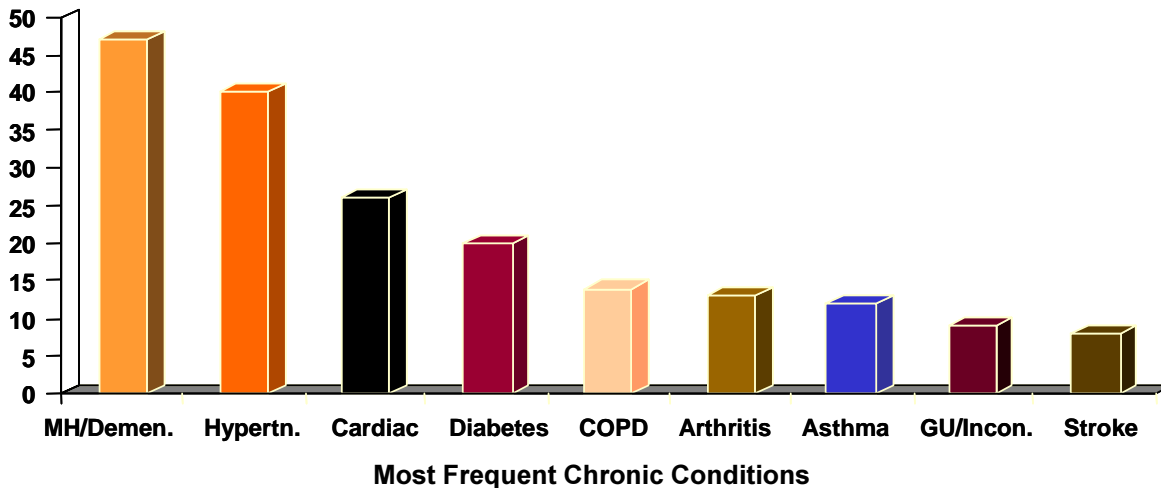
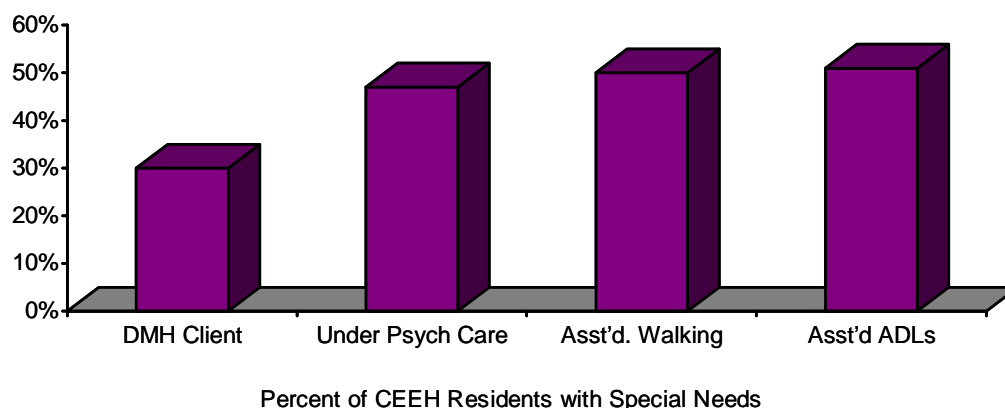


Figure 5: Indicators of CEEH Resident Frailty



With regard to the tenant’s level of frailty, 50% of the tenants require the use of an assistive walking device, and 51% of the tenant population requires some type of assistance with one or more areas of daily living. National data from the U.S. Bureau of Census’ Current Population Reports finds that only 11.5% of elderly community residents, in the same age range, require assistance with one or more areas of daily living (U.S. Census Bureau, 1997).

CEEH Research: Clinical and Utilization Outcomes

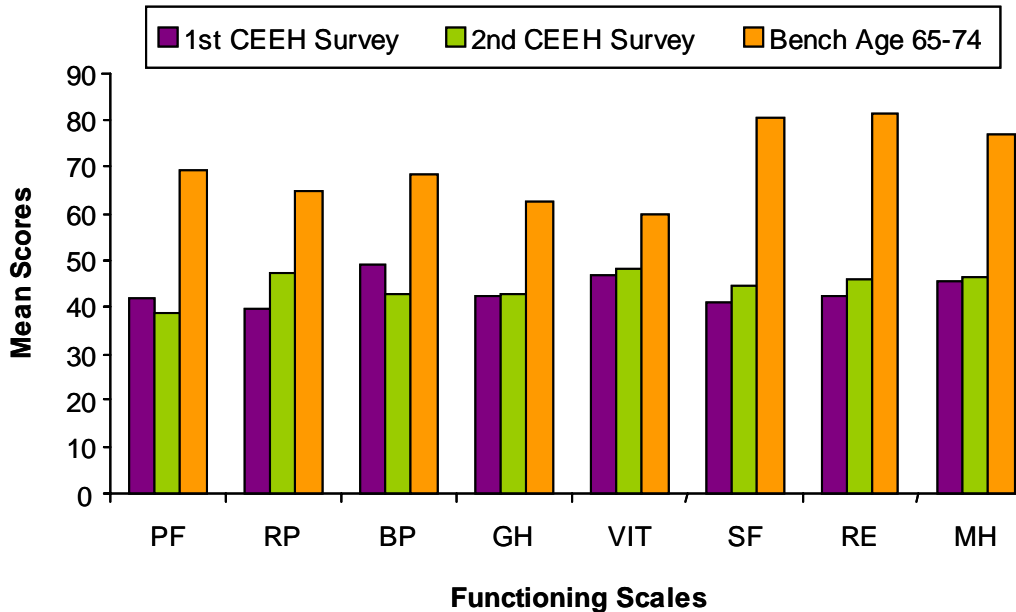
Physical and Mental Health Functioning

Above descriptions of CEEH tenants revealed that the majority of respondents in this study were homeless prior to coming to CEEH. Evidence has also been presented indicating that homeless elders age at an accelerated rate of 10

Table 4: Areas Measured by the SF36 Functional Status Tool

Scale	Definition	Measurement
PF	Physical Functioning	Degree of physical disability
RP	Role Physical	Degree that physical disability limits daily tasks
BP	Bodily Pain	Intensity of bodily pain
GH	General Health	Self - perception of general health
VT	Vitality	Self - perception of energy level and fatigue
SF	Social Functioning	Interference with social activities due to disability
RE	Role Emotional	Interference with daily activities due to emotional problems
MH	Mental Health	Self - perception of general mental health

Figure 6: SF-36 Outcomes for CEEH Residents at First and Second Collection Points and Benchmark for Average US Population Elders Age 65-74



to 20 years faster than their housed cohorts, and experience more health and mental health problems. Therefore, it was expected that the cohort of elders in this study would have a lower rate of physical and mental functioning. The SF36 tool was used to measure residents' physical and mental functioning. Areas measured by the SF36 are listed in Table 4.

Results of the measurement of functional status of CEEH residents displayed in Figure 6 showed that, as was expected, CEEH residents had significantly lower functional status than average elders. In most cases, functional status was less than 95% of the average elder population. **In terms of functional status, they are a very frail and complex population.**

As Figure 6 also shows, CEEH residents showed improvement between first and second data collection points for every, physical functioning is a measure of actual physical ability. It is theorized that PF scores parameter measured except physical functioning (PF). As previously noted declined at CEEH during the study period because the newest residents introduced into CEEH during the period were elders moving into the highest frailty environment at Ruggles

St. Assisted Living. Ruggles residents have higher average age (73 versus 68) than the rest of the CEEH population and have higher acuity. It is worth noting that although acuity rose during the study period (as defined by PF), how residents allow that acuity to impact on their daily lives (RF- role physical) actually significantly improved at the same time ($p < .001$). This would suggest that some factor in the CEEH environment is mitigating the impact of physical frailty. Bodily pain declined during the study period, which is also a Positive outcome. The CEEH data collection points occurred in December 2001 and June 2002, respectively. Benchmarks noted are the average SF-36 scores for elders aged 65-74.

Overall, the SF-36 findings were surprising because in a population as frail as the CEEH population described, stabilization of functional decline would be a positive outcome and statistically significant improvements in functional status would not normally be predicted.

Analysis was performed to determine the differences in scores between those who had lived in a CEEH residence for less than one

Table 5: Inpatient Hospital Utilization for Program Users

Program	% Enrollees Hospitalized	Average Days Per Hospitalization	Average Days Hospitalization Per All Enrollees
Medicare(CY2001)*	39%	5.69	2.20
Medicaid(CY2001)†	37%	7.22	2.60
PACE (CY2000) ††	NA	4.60	2.80
CEEH (2001-02)§	47%	4.67	2.19

Sources: Massachusetts Health Data Consortium, 2001; National PACE Association, 2002; CEEH, 2002.

* Medicare is MA Medicare recipients age 65+

† Medicaid is MA Medicaid recipients age 65+

†† PACE is national PACE statistics for all sites

§ CEEH is statistics for the one year study period hospital rates for those resident one year or more projected to the entire study population.

year, and those who had lived there for over one year. The results indicate that although all elders improved over time, improvements within the first year of residency are greater and improvements beyond one year of residency continue, but are more modest.

Social Integration and Well-Being

There is a proven correlation between lack of social integration and older adult homelessness (Hudson, 1998). Social isolation is also predictive of inpatient psychiatric hospitalizations, impairment in physical functioning and lower life satisfaction for community-based aged (Bennett, 1961; Baxter and Shetterly, 1998; Newsom and Schultz, 1996). Based on these findings it was expected that CEEH tenants would evidence low social integration scores. Ascending social integration scores utilizing the amended version of the OARS scale is indicative of higher social integration. An assumption could be made that higher social integration scores would result in a decline in hospitalizations, improvement in functioning and life satisfaction for CEEH tenants.

Analysis of social integration scores revealed that CEEH residents have lower integration scores when compared with norms from a group of 2,146 community-based elders over the age of sixty (Fillenbaum, 1988). The average score for

CEEH tenants is 15.03 and 15.43 for first and second data collection points, respectively.

These scores show improvement in social functioning for all CEEH elders over the study period. As was expected, CEEH elders had much lower socialization scores than average elders. According to the norms presented by Fillenbaum (1988), community-based elderly over the age of 60 have a 21-point norm for social integration. Again, improvements were greatest for CEEH residents during the first year of their residency, but continued to improve over time.

Well-being has been positively correlated with improved health functioning and health care compliance. A positive score of 40 on the LSIA indicates that a person is “Regarded as taking pleasure in everyday life; regards his life as meaningful and accepts resolutely that which life has been; feels he has succeeded in achieving his major goals; holds a positive self-image of self; maintains happy and optimistic attitude and mood” (Neugarten, Havighurst & Tobin, 1961). **Results of CEEH LSIA survey indicate that there was an improvement in well-being scores (.90) between the first and second data points.** These results were positive for the entire population and statistically significant for those residents in their first year.

Cognitive Functioning

Cognitive functioning* measures the ability of the participant to understand and reason. Reasonable cognition is required for all elder to remain functionally independent. In this study, a Paired-Samples T Test was utilized to ascertain the changes that occurred between the first and second data collection points. **Results indicate that there was an improvement in cognitive functioning scores (1.55) between the first and second data points.** This finding proved to be statistically significant ($p < .001$). Analysis was then performed to specifically examine the cognitive functioning improvements with tenants that had been with CEEH less than one year, compared them with those who had been tenants more than one year. The results revealed that tenants who had been residents of CEEH for less than one year also had a significant improvement in their cognitive functioning scores over the initial six months of the study, compared with tenants who had been in residence over one year. These findings were also found to be significant.

In summation, even though the CEEH population is representative of a very frail chronically ill elderly population and therefore would have been anticipated to experience further functional decline during the study period, CEEH residents showed overall improvement in functional status, life satisfaction, social integration, and cognition. In particular, cognitive and role physical improvements were highly significant ($p < .001$).

LTC and In-patient Utilization

One of CEEH's six residences is a certified assisted living facility (Ruggles St. Assisted

Living). Ruggles St. is the only assisted living facility in Boston entirely dedicated to serving very low-income residents. Since opening in November 2001, 47% of those residents who have moved in and 60% of those waiting to do so have come from through referral from LTC and Rehab facilities.*

Therefore, Ruggles St. will house at least 22 residents who have moved out of LTC. The average cost of the low-acuity (so-called category "H") Medicaid LTC resident is approximately \$75 per day or \$27,375 per year. The average Medicaid payment (through the GAFC program) per Ruggles St. resident is \$37.80 per day or \$13,800 per year. **Therefore, it can be reasonably assumed that Ruggles Street's 22 former LTC residents will save Medicaid approximately \$13,575 per resident per year equaling a total Medicaid annual savings of about \$300,000 just for that one facility.** It should be mentioned that these savings do not take into consideration additional community-based services (e.g. visiting nurse care) that might be required by Ruggles residents from time to time. Such services would decrease Medicaid's comparative savings. However, it also does not take into consideration lower comparable rates of Ruggles St.'s residents for higher cost hospital services.

As we have seen, the entire body of CEEH residents is very frail (almost two standard deviations below frailty norms for most measurements of functional status, socialization, life satisfaction, and cognition) and has significant chronic medical and mental illnesses. Given their measurements in frailty scales, they should be predicted to be among the highest utilizers of high cost services such as acute hospital care.

* Cognitive functioning range is 1 (extremely impaired) to 30 (no impairment).

** It is interesting to note that these referrals came from the LTC facilities themselves, especially since many would expect that LTC facilities would perceive assisted living facilities such as Ruggles St. as competitors. Although the average LTC facility in Massachusetts is only 93% filled, there are bed shortages in the neighborhoods and towns of Massachusetts where there are low rates of private paying LTC patients. Communities such as Lynn, Haverhill, Boston (particularly Brighton), and Somerville have shortages of LTC beds and this shortage should become more extreme in the future. Therefore, in the areas most served by Medicaid, there is a shortage of LTC availability, which should worsen over time. LTC facilities in these areas can expect increased acuity of patients in the future and there will be a shortage of LTC beds for those very frail elders discussed in this report. This explains the reason that CEEH received 59 referrals from LTC facilities to Ruggles St. during the months of January through October, 2002 (Plumb, 2002).

Even though this might be expected, it was not the case.

It is clear from these numbers that although CEEH residents are very frail and might be expected to be significantly higher utilizers of acute medical services than the average elderly population, their utilization falls within the norms for the entire age 65+ population. Although CEEH residents were hospitalized more than the average for the entire Massachusetts Medicaid and Medicare population of elders, the average number of hospital days for each hospitalization was lower than for elders as a whole.

Under some risk models, it is estimated that the top 20% of elderly health care users consume 66% or more of health care resources (Anderson, 2002; NCCC, 2002). Using such models, high-risk elderly Medicaid recipients would be anticipated to experience 1.225 hospitalizations per person per year. It is reasonable to assume from the chronic illness patterns and severity of illness outcomes of CEEH residents that they would fall into the top 20% of all health care utilizers. As high-risk Medicaid elders, these models would predict 38 more hospitalizations than the CEEH population actually experienced at an average charge of over \$14,000 per hospitalization (Anderson, 2002; Massachusetts Health Data Consortium, 2001).^{*} This model of high-risk utilization would suggest that CEEH residents' lower than expected utilization of inpatient hospital care created a combined savings of over \$500,000 in Medicare and Medicaid charges.

Research Conclusions

The description of the CEEH participants in this study indicates that this is a frail elderly population, the majority of whom were homeless or institutionalized prior to entering CEEH housing. Currently 92% of CEEH tenants have

multiple chronic illnesses, and 51% require some assistance with daily living tasks. Descriptive statistics have shown that CEEH tenants have significantly lower scores in physical and emotional functioning and social integration scores, compared with the national norms for same age cohorts. Scores from this study for well-being indicate that CEEH tenants fall below the median range for successful aging scores (21.21).^{*} Health care utilization data from this study indicates that CEEH tenants could be expected to be significantly high utilizers of acute medical services due to their level of frailty. However, their utilization falls within the range of the entire age 65+ population. The end result implies that substantial annual savings to MA Medicaid and Medicare have been achieved during the study period.

While CEEH tenants evidence impairment in the areas of physical and emotional functioning, cognition, social integration and well being when compared to national norms, during the study period they evidenced improvement in all of these outcome measures over time. Many of these improvements are statistically significant. It is the contention of this research, that this unique housing, case management model that delivers consistent and intensive management of the holistic needs of the elderly tenant is quintessential to this improvement in outcomes. This finding has a broad range of medical, social, economic and policy ramifications that could ultimately improve the health and well being of our frail, community-based elders.

Policy Implications

Very frail elders such as those served by CEEH want to remain in the community as long as they possibly can. Because medical payment systems must pay for the increased disease and disability incurred by the frail when they do not have good

^{*} Average charge noted was for age 65 and above Medicaid hospitalizations where Medicaid was the secondary payer to Medicare. Hospitalization rates used in benchmark calculations were the average number of Medicaid as secondary payer hospitalizations.

^{**} Well-being scores range from 1 (unsuccessful aging) to 40 (successful aging).

Possible GAFC Program Alternative

Target Medicaid Population	Service Provided	Possible Reimbursement Rate
Elders Requiring approximately one hour of support daily	One hour ADL support in home or supported housing	\$1150/month (Current GAFC program)
Elders Requiring one to two hours of direct and indirect support daily	One to two hours of ADL/MH/Case management/Activities support in home or supported housing	Approximately \$1500-\$1750 /month
Elders requiring two to three hours of direct and indirect support daily	Two to three hours of ADL/MH/Case management/Activities support in supported housing/assisted living	Approximately \$1750-\$2000/month (Nursing home eligible elders)

coordinated community supports, it has been primarily the medical payment systems that have generated the alternative programs attempting to improve their care. These programs, such as PACE, Medicare + Choice Plans, and capitated long-term care, have proved to be very complex and difficult to implement both in terms of policy and administrative changes required as well as operational implementation. In many cases, they have proved to be too financially risky for providers, and in most cases (with the exception of specific disease management programs or heavily case-managed programs such as PACE) have not shown the significant decreases in utilization and costs of elder care necessary to justify their heavy overhead costs. There is also no evidence (with the exceptions just noted) that they significantly improved the outcomes of the elders they served.

In the case of CEEH, there is a program demonstrably targeting the very neediest poor and frail elders. Even so, the elders receiving CEEH services showed significantly positive improvements in their functional status, socialization, mental health, cognition, and satisfaction. All of these outcomes are predictive of decreased health care utilization and indeed that was the case. CEEH population of elders had hospital-

ization patterns within the norms of the broad Medicare and Medicaid elder population. Given the high risk nature of the CEEH population, their more normative utilization patterns have been estimated to create substantial Medicare and Medicaid savings.

CEEH elders moved into CEEH residences out of higher-cost living environments such as LTC and Rehab facilities at very high rates. More than half of the Ruggles Assisted Living facility houses such residents. This shift alone could create savings in the range of \$300,000 annually to Medicaid.

The CEEH model is very straightforward. It consists of interdisciplinary care teams led by RN, MSW (LCSW), Case Management, and Administrative personnel who help provide medical, mental health, and case management supports full time to residents. The team is focused on helping the residents achieve their own goals of independence, satisfaction, and health within a community setting. Most residents pay for their housing through a combination of private payment (usually one-third of the elder's income) and housing subsidy (e.g. Section 8). Services are paid through a combination of public funding sources such as Group

Adult Foster Care (Medicaid), state Executive Office of Elder Affairs (EOEA) and Department of Mental Health (DMH). However, due to the inadequacy of current funding levels, 15% of the model must still be subsidized through private philanthropic sources. In 2003, CEEH anticipates that it will have to raise \$470,000 in philanthropic dollars to pay for the unfunded costs of running its programs.

Policy Options

The interdisciplinary supported housing/assisted living model such as the one at CEEH meets the tests of a logical policy alternative to LTC for the frail elderly. It is administratively simple, replicable, scaleable, is lower cost than the alternative, and has proven positive outcomes. However, it is not likely to be reproduced on a significant scale because current funding sources do not cover the full cost of providing the service. To adequately fund a more comprehensive set of community supports for frail elders, the Group Adult Foster Care program of Medicaid would have to be expanded to something like the following:

Such a program would still fund nursing home eligible elders below the current LTC rates and would therefore be expected to generate savings in LTC. And for this reason, as was mentioned above, this process is currently being tested in the Community Based Residential Facilities program of Illinois (AHRQ, 2000).

This type of financing mechanism would be expected to encourage other providers to begin to serve the very frail elder population. Currently there is excess capacity in assisted living residences in Massachusetts, but available units have not been opened to the frail Medicaid elder because of inadequate reimbursement through GAFC. Replication of the program could be expected to create direct savings to the state within the first year of implementation with little up-front cost.

It targets the highest risk population and permits those elders to remain in the community. It is administratively simple and provides a benefit preferred to high institutional use. It allows for flexible integration of housing, social, medical and mental health supports and saves the payers significant dollars while minimizing risk to the providers. It delivers services efficiently and accrues economies of scale. It has demonstrated successful outcomes, and is both replicable and scaleable. It meets the policy parameters previously outlined for a successful program to manage high-risk frail elders.

Public policy to provide supportive housing and assisted living options for poor frail elders would merely mimic what the market-based economy has already demonstrated. With the 500% expansion in assisted living in Massachusetts over the past decade, we have witnessed a mass scale social experiment that reinforces the findings of this study. In voting with their feet and their wallets, elders and their families have determined that supportive housing/assisted living is the most cost-effective, safe, and healthy option for elders who cannot safely remain in their homes and who are not so ill that they require LTC.

There have been concerns about the so-called “woodwork effect” of implementing a state-funded option for supported housing and assisted living. Policy analysts contend that many elders who might be nursing home eligible currently do not use the nursing home benefit under Medicaid because the prospect of moving into LTC is so negative for the elder. The concern expressed by such analysts is that such potentially eligible elders might “come out of the woodwork” to seek an assisted living benefit, perhaps due to the less negative perception of assisted living. It is postulated that such a “woodwork effect” new volume would more than offset the savings created by the option’s lower cost to LTC. However, a 1996 study of home and community-based program alternatives to LTC in Washington, Oregon and Colorado, found that this was not the case (Weiner, 2002).

Almost all elders perceive any movement out their own home as a very negative outcome and resist such movement until the last possible moment. This is the primary reason why the average age of an assisted living resident is 83.

Also, as has been seen in the CEEH research, concerns about “woodwork effect” do not take into consideration the fact that residents in supported housing/assisted living appear to have lower hospital utilization than would be predicted by models of hospitalization of high-risk elders. Such Medicare and Medicaid savings for frail elders who are being more appropriately managed could be significant.

Other policy options for managing frail elders in the community revolve around managed care options such as PACE and SCOs that have also been discussed in this paper. However, such options are based on a medical model, and although they attempt to better integrate social and behavioral supports into care giving, they are administratively and operationally complex, and expensive (requiring capitations significantly above those proposed in a supported housing model). For these reasons, it is important to examine additional models of interdisciplinary care management that may produce positive outcomes as well as savings. ~

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Appendix A

Survey Tool Description

Mental and physical health were measured through the SF36 Health Survey. The SF36 is a Quality Metric Outcomes Assessment Tool that provides an assessment of both physical and mental health. The questionnaire was designed by John Ware and formed the basis of the Medicare Health Outcomes Survey. The SF36 was designed for use in clinical practice and research, health policy evaluations and general population surveys. The tool has eight single item measures that represent 8 health concepts. The 8 health concepts are; physical functioning; disability related to physical health effects; bodily pain; general health perceptions; vitality; social functioning; disability related to mental health effects; and mental health (Ware, 1993).

The measurement of self-assessed physical and emotional functioning is important given the number of elders who experience health and emotional problems and incur high health care costs subsequent to low levels of functioning. Research finds that elders over the age of 65 suffer from a minimum of 1 chronic illness and that self-assessed health among the elderly has been found to be a predictor of the elder's health care utilization throughout the following year (Scott, 1999). Wolinsky (1999) contends that elders are more likely than younger groups to suffer from multiple, chronic conditions. However, research has found that homeless elders tend to have health problems comparable to housed populations 10 to 20 years older (Crane & Warnes, 2001). Further research has found that homeless persons have higher rates of physical illness, mental illness, substance abuse and early mortality (Kushel, M., Vittinghoff, E. and Haas, J. 2001). The measurement of physical and emotional health will allow CEEH to determine the care needs of the tenants and to implement appropriate services, subsequently preventing hospitalizations and lowering health care costs.

Health care utilization was captured through observation of number of medical hospitalizations, emergency room visits, long term care/rehabilitation days and psychiatric hospitalizations. Given that older Medicare enrollees have accounted for 55% of Medicare recipient's hospital days, and 62% of its hospital expenses during the past two decades (Boult, et al 1998) it is essential that incidents and costs of care be monitored to determine the economic and clinical effectiveness of the comprehensive case management model of care for CEEH tenant.

Social integration was captured through a global social integration scale designed to capture the degree and intensity of social engagement for each respondent. The social integration scale utilized in this study was adapted from the Duke University Older Americans Resource and Services Scale (OARS), part of the larger OARS battery. The literature indicates that this scale is "perhaps the best known general measure of social function for the elderly" (Kane, 1981, p. 165). The questions from this tool identify information about the respondent's family structure, patterns of friendship and visiting and availability of a confidant and a helper. The respondent is rated on his/her degree of social resources.

It is important to measure social integration due to its proven correlation with older adult homelessness (Hudson, 1998). The literature on this subject also finds that social isolation was found to be predictive of inpatient psychiatric hospitalizations, impairment in physical functioning and lower life satisfaction for community-based aged (Bennett, 1961; Baxter and Shetterly, 1998; Newsom and Schultz, 1996) Therefore,

improvement in the area of social functioning would result in a decrease in hospitalizations, improvement in functioning and life satisfaction for CEEH tenants.

Cognitive functioning was measured with the Folstein Mini Mental State Exam (Folstein, Folstein & McHugh, 1975). This measure separates respondents with and without cognitive disturbance. This test examines the orientation, memory, attention, and ability to name, to follow verbal, and written commands, to write a sentence spontaneously and to copy a figure. The tool will be utilized to determine the level of cognition of respondents.

It is important to measure cognitive functioning for elders due to proven correlation between low cognitive functioning and nutritional impairment, social isolation and refusal for medical care (Endevelt, R. et al, 2002; MacReady, N. 1999; Branch et al, 1988). Also, cognitive impairment has recently been found to have a direct impact on decline in functional status (AHRQ,2002). An increase in cognitive functioning for CEEH tenants would subsequently result in improvements in social integration, health and health care utilization and provide substantial cost savings and improved quality of life.

Well-being was measured with the Life Satisfaction Index A (LSIA). There are several terms utilized in research that are synonymous with well-being and Life Satisfaction is one of those terms. The LSIA was developed from the Life Satisfaction Ratings by Neugarten, Havighurst and Tobin, in 1960 as a tool to measure life satisfaction (Abeles, et al., 1994). This initial Life Satisfaction Rating was developed as a means of measuring successful aging for the Kansas City Study of Adult Life.

A high score in life satisfaction has been correlated with improvement in health status, functioning and health care compliance (Wassertheil-Smoller, Blaufox & Oberman, 1991; Clark et al, 2002; Sarkisian, et al, 2002). Therefore, improvements in the life satisfaction of CEEH tenants would result in higher levels of functioning and improvement in health status.