North End DoN Application Questions
December 18, 2017

1. Please provide a complete response to F1.a.i, and ii: describing the Patient Panel and how this project addresses the specific needs of the patient panel? Specifically, and without limitation, please respond, to the following questions:

a. F1.a.i Patient Panel:
Describe your existing Patient Panel, including incidence or prevalence of disease or behavioral risk factors, acuity mix, noted health disparities, geographic breakdown expressed in zip codes or other appropriate measure, demographics including age, gender and sexual identity, race, ethnicity, socioeconomic status and other priority populations relevant to the Applicant's existing patient panel and payer mix.

The demographics that North End Rehab currently serves are:

Age:

Under the age of 65	22%
65+	78%

40-49	6%
50-59	9%
60-69	22%
70-79	18%
80-89	27%
90-99	16%
100+	2%

Race:

White or Caucasian	80%
Black or African American	15%
Asian	5%

Religion

Catholic	52%
Christian	10%
Episcopal	5%
Jewish	10%
Baptist	10%
None	12%

Zip Codes:
The majority of the patient panel being cared for at The North End Rehab are from the Boston proper zip codes or have family members that work in these zip codes:

Postal\Zip Code	Suburb	Population
02109	North End	3771
02110	Boston	2402
02113	North End	6915
02114	Boston	11999
02116	Back Bay	20628
02127	South Boston	33493

The patient panel primary contact / relatives reside in these zip codes:

01730, 01880, 02109, 02110, 02113, 02114, 02116, 02121, 02122, 02127, 02128, 02129, 02148, 02150, 02151, 02180, 02459, 20855, 30101, 34269, 75040, 83605

Payer Mix and Type:

Medicare	Insurance	Medicaid	Private Pay	Medicaid Pending
17%	3%	62%	14%	4%

b. F.1.a.ii. - Provide data/evidence showing that the proposed project aligns with identified healthcare needs of the patient panel.

(see data previously submitted for F.1.a.ii)

Since the transition of ownership from Spaulding to Marquis, we have see the expected change and expansion in referral patterns to the North End Rehabilitation and Healthcare Center.

Since October 28, 2017, The North End Rehab has received referrals from these locations:

Referring Location	Referrals
Beth Isreal Boston	9
Boston Medical	6
Brigham and Womens	3
Mass Eye and Ear	1
Massachusetts General Hospital	40
Melrose Wakefield Hospital	1
Rhode Island Hospital	1
Spaulding Boston	1
Spaulding Cambridge	4
Spaulding Rehabilitation Hospital	6
St. Elizabeth's Medical Center	15
Tufts Medical Center	6
Whidden/CHA	1
Harborlights	7

c. What indicators have you used to ascertain the continuing need for this type of facility?

As previously stated:

1. Demonstration from the North End community to keep the center open and operating in this community as a skilled nursing facility.
2. Previous and ongoing meetings with all major Boston hospitals and community physicians.
3. Recruitment and onboarding medical staff from referring hospitals:
    a. Spaulding Cambridge
    b. Tufts Medical Center
    c. Massachusetts General Hospital
    d. North End Waterfront
4. Family and community meetings
    a. Also identified need to rematriculate patients who lived locally and families live locally who have had to find care outside of Boston.

Since the original submission there has also been the announcement of the closures of a South Boston Nursing center, as well as, 3 additional Greater Boston Nursing Centers:

- Kindred Transitional Care & Rehabilitation-Highgate, in Dedham; Operating
- Kindred Transitional Care & Rehabilitation-Avery, in Needham; Operating
- Kindred Nursing & Rehabilitation-Tower Hill, in Canton; Operating
- Kindred Nursing & Rehabilitation-Harborlights, in South Boston; Operating

Link to the Article / and Article Attached:

http://www.bostonglobe.com/metro/2017/12/05/mass-nursing-homes-close-displacing-hundreds/Rzq1yvpYpELBYvkE4JSVlK/story.html

2. What evidence supports the need for the conversion from 50% short-term and 50% long-term patients to 70% long term and 30% short term patients?

This change in demographics was projected based on the long term patient panel who decided to remain at the North End facility after the transition of ownership from Spaulding in October instead of transitioning to Spaulding West Roxbury location or any other skilled nursing facility.

This was also driven by the reduction in licensed beds from 140 to 100.

At the time of the transition of ownership, there were 60 long term care patients that chose to remain at the North End facility.

3. Provide the payer mix of your patient panel (restated from above)

Payer Mix and Type:

Medicare	Insurance	Medicaid	Private Pay	Medicaid Pending
17%	3%	62%	14%	4%

4. What is the current occupancy rate of the facility and what will it be after the transaction?

Current Occupancy is 75% and we are expecting to average 92% occupancy.
(also see page 3-5 on the initial submission)

5. What percentage of patients will be clinically complex?
a. Current as well as post-transaction

Current: 15%
Projected: 25-30%

b. In the DoN Application proposed by FRC, Inc., the Applicant asserted that patients discharged from MGH to the North End facility with complex medical needs are "difficult to place in a traditional nursing facility due to complex medical needs and the significant cost of providing care." The Applicant, proposed and the DoN authorized consolidating care from the West Roxbury and North End facilities to the new Brighton facility. Please describe how your proposal will address the costs of care for these patients with complex medical needs and how doing so will serve the needs of the broader patient panel?

c. What evidence do you have to support the assertion that you will continue to draw referrals for this patient population to your facility?

Since the transition of ownership there were 10 referrals that were declined for clinical complexity:

1. Frequency of Suctioning
2. Trache Care
3. NG Tube
4. TPN

Clinical competency training is in process and will be ongoing to enhance the clinical capabilities of the clincical team to care for a higher level of acuity in the center.

Tufts Medical Center LVAD team has requested to offer our staff training on LVADs due to the need for a skilled nursing facility option for placement of these patients. Training to begin in Q1 2018.

Mass Eye and Ear has requested to offer staff training for their complex laryngectomy patients in order to have a discharge disposition close by for their patients to be more local for their follow-up appointments. Training to begin in Q1 2018.

Mass General Hospital transplant team has requested to meet to discuss next steps in becoming a preferred location for their transplant patients to receive post acute follow-up care. Meeting is scheduled for January 17th at 10:30am.

The BUGs (Boston Geriatric Physician Group), affiliate of Boston Medical Center) is also looking for a new location for their members with the closing of Harborlights in South Boston. Meeting being scheduled for January 2018.

6. Describe how the renovations to the facility and patient programming will improve care for the patient panel and serve clinically complex patients?

a. What are the projected benefits to the patient panel of the Specialization of care/Specialty programming?

Marquis' specialty program includes the enhanced clinical competencies and trainings in each specialized program area. It also includes the support of weekly rounds and clinical oversight of MD specialists.

The Cardio Pulmonary program at the North End Rehab consists of a Pulmonologist, Respiratory Therapist, and Cardiologist.

These resources offer access to these types of care for the local community. Enhanced competencies for the clinicians and improved hospitalization rates reducing the risks of transfer trauma.

Th proposal also includes the installation of piped in oxygen and in-wall suctioning; meeting the needs of a higher acuity patient, as well as, reducing the need for portable oxygen concentrators and portable suctioning machines.

b. How will the renovations improve the quality of life of the patients?

As previously stated, the creating of 60 private rooms with offer more privacy, comfort, larger room accomodations, more private visitation with family and friends.
It also will create a larger rehabilitation gym with the ability for additional rehabilitation equipments, as well as increasing the common, leisure, recreation, and dining areas throughout the center.

c. What outcomes/measures will you use to evaluate improvements over time? i. Detail improved outcomes and key quality metrics

Outcome Measures that will be tracked to measure success of implementation: (as previously stated):

1. Patient Satisfaction
2. Rehospitalization rates
3. Increased referral patterns
4. Conversion ratios
5. % of discharges home
6. CMI
7. Occupancy and Payer Mix
8. CMS Star rating trends
9. CMS Quality Measures

7. How will the company's Accountable Care Partnerships impact the delivery of care at the North End facility?

North End is caring for and will continue to care for Accountable Care members in the Partner's ACO, BI ACO, Tufts (Wellforce ACO), Steward, and soon the BUS group.

Our Care Navigators, clinicians will work with all ACO's to meet their desired metrics and processes.

We have invested in Patient Ping back for patient admission and discharge tracker. This allows us to be alerted when any of their members admit to any other care site. This tool is used for hospital avoidances, direct admit from homecare, or hospital ED direct admissions, avoiding hospital readmissions.

Patient Ping in also integrated into Point Click Care (PCC) our electronical medical record to alert ACO care coordinators of admission of their members top our location.

8. Describe reduction in medical costs of care that will result from treating patients that would have otherwise gone to a Long Term Acute Care Hospital (LTACH).

LTACH level of care requirements for admission continue to evolve by both CMS and Managed Care Organizations due to the cost of care. A patient who meets LTACH level of care, but could also be admitted to a skilled nursing facility could differ in costs from on overage $1100 per day in LTACH to $450 per day in a skilled facility.

9. How will the project compete on the basis of price towards a reduction in the total cost of care as you assert in your DoN Application?

With the enhancements of piped on Oxygen, In-wall suctioning, and expanding rehabilitation opportunities, accommodating a higher level patient, will reduce LTACH utilization, reduce time spent in acute hospital level of care, reduce hospitalization, reduce overall length of stay; making an impact in the overall episodic care of these patients.

Marquis Health Services, LLC on behalf of NEB Operator LLC
DoN Application# 17112810-LE

DoN Application Questions
January 24, 2018

Review questions 1, 2, 3, and 4 of the Follow-up questions to your DoN Application submitted to you on December 18, 2017 (attached) and provide any additional information to support your response to these questions. (Lucy Clarke email dated 01/12/2018)

1. Please provide a complete response to F1.a.i, and ii: describing the Patient Panel and how this project addresses the specific needs of the patient panel? Specifically, and without limitation, please respond, to the following questions:

    a. F1.a.i Patient Panel: Describe your existing Patient Panel, including incidence or prevalence of disease or behavioral risk factors, acuity mix, noted health disparities, geographic breakdown expressed in zip codes or other appropriate measure, demographics including age, gender and sexual identity, race, ethnicity, socioeconomic status and other priority populations relevant to the Applicant's existing patient panel and payer mix.

Answer: North End Nursing Home is operating with 100 licensed beds when Marquis Health acquired ownership and initiated operations on November 1, 2017 as opposed to the previous operator that operated 140 licensed beds. The facility's current occupancy is 82; 51 residents out of 100 licensed beds are currently covered by Medicaid (Attachment #1). Enclosed are charts that detail various characteristics of the North End Patient Panel using December 2017 data (See attachment 1- Patient Panel). Data included on the patient panel chart includes the following demographics: resident age, gender, race, and geographic breakdown. This chart also provides the breakdown of acuity using level of care indicators generated by Medicare (Resource Utilization Group "RUG") and the Massachusetts Management Minutes Questionnaire ("MMQ"). The facility's MDS Casper report which was run in January, 2018 is the supporting basis for the data slides (Attachment #2).

The geographic breakdown of the North End patient population is that 46 of the 91 patients originate from the 02109 and 02113, the North End Zip Codes (Attachment #1). One of the main objectives of this renovation project is to serve the needs of the local community. Many of the residents of the North End community do not own cars for either economic and/or logistical reasons. North End intends to actively promote friends and family to visit patients more frequently to enhance the Resident's recovery and transition back to their home/community which will greatly improve patient satisfaction. North End intends to meet a geographic health disparity by lowering the length of stay and increasing the number of discharges to home and the community.

A large portion of the current Patient Panel, 92% of the Medicare patients, are receiving skilled Rehab up to seven days/week and/or daily skilled nursing services seven days/week. This project addresses this patient population by creating a 3,482 square foot therapy gym with state-of-the-art therapy equipment. This allows short term Rehab patients to receive the therapy required in a more efficient manner, which should lead to shorter lengths of stay as Marquis has experienced with other recent projects (Attachment #3). Presently, due to space (546 sq. ft.), staff and technology limitations the provider is currently limited to providing rehab services to approximately two residents per hour. The enlarged rehab suite will allow services to expand to up to ten residents per hour up to seven days a week.

    a. F.1.a.ii. - Provide data/evidence showing that the proposed project aligns with identified healthcare needs of the patient panel.

Answer: As discussed above this facility shows strong community support with over 50% of the current patient panel coming from the North End. Unlike suburban towns where personal transportation is prevalent and driving to a facility is common, people of the North End need a facility that can be accessed without a personal automobile.

The patient panel demonstrates an increased need for Rehab services. The proposed project addresses the need for this type of patient by providing dedicated space and updated equipment.

The chart below shows the post renovation room configuration. The pre-construction building had only 10 private rooms, whereas the renovated facility will have 42 private rooms including one private room on each floor with a private bath and shower. Private rooms with private bathrooms are especially important when treating patients with infections. As will be demonstrated forthcoming, as a need for a higher acuity patient setting has been identified, and with these patients more prone to risk for infection, the additional private rooms will increase the opportunity for accessing and improving care, reducing re-hospitalizations, and shortening the length of stay. In an article published in "The Gerontologist" the authors studied the cost and value of private rooms verses shared bedrooms. Summary Results state: The vast majority of factors identified in this study, regardless of whether there was solid empirical data, information was from focus groups, or other anecdotal evidence, indicated better outcomes associated with private rooms over shared rooms in nursing homes". (Attachment #4) The article discusses clinical evidence supporting private rooms, especially in the area of infection control that will not only improve outcomes in the current patient panel, but also serve the types of referrals area hospitals have been requesting for placement. These requested services are discussed below under part b of this question.

Proposed - Post Renovation Configuration

2nd Floor:	Rooms	Beds
Semi-Private	10	20
Private	11	11
Total 2nd Floor		31

3rd Floor:		# of Beds
Semi-Private	19	38
Private	2	2
Total 3rd Floor		40

4th Floor:		# of Beds
Quad	0	0
Semi-Private	0	0
Private	29	29
Total 4th Floor		29

TOTAL QUADS	0	
TOTAL SEMI-PRIVATE	29	58
TOTAL PRIVATE	42	42
TOTAL BEDS EXISTING:		**100**

b. What indicators have you used to ascertain the continuing need for this type of facility?

Answer: North End's in-house medical team has been reaching out to local referral sources regarding the types of patient diagnoses most in need of placement follow:

- *New Tracheostomy patients, as well as other high acuity pulmonary diseases requiring a high concentration/PSI of oxygen that can only be delivered through a piped in oxygen system as well as in wall suctioning. These Patients are often coupled with secondary infections and other comorbidities.*
- *Mass Eye and Ear needs a Boston based center to accommodate trach related to laryngectomy patients with the ability to be close by post hospital stay for their weekly follow-up appointments.*
- *Meeting with Mass General January 17, 2018 - MGH will be initiating clinical training for the North End clinical team regarding organ transplant patients who will require single rooms.*
- *Tufts Medical Center requests SNF beds able to accommodate Left Ventricular Assist Device (LVAD) patients. Prefers a center in Boston and the North End will become that site.*

Marquis provides some project background along with highlighting the major patient care improvements designed to meet the needs of this community (Attachment #5). Doctor's with intimate knowledge of both the North End facility and the patient needs of the community have supplied letters of support for this project (Attachment #6).

2. What evidence supports the need for the conversion from 50% short-term and 50% long-term patients to 70% long term and 30% short term patients?

Answer: 50% short-term and 50% long-term was when there were 140 licensed beds in this facility. The Applicant is now licensed for only 100 beds, and will be keeping the 70 prior Long Term beds in place. This is the basis for the 70/30 split. The need for 70 long term beds is demonstrated through the fact that with this transition of the North End facility to new ownership, 60 long-term residents chose to stay at North End where they knew many of the other residents, staff and the community.

3. Provide the payer mix of your patient panel

Answer: The current payer mix of the facility per Attachment 1 is 2 % Insurance, 62% Medicaid, 21%.. Medicare A, and 15% Private. These percentages are based upon 82 patients out of a possible 100.

4. What is the current occupancy rate of the facility and what will it be after the transaction?

Answer: Current occupancy is 82% up from approximately 75% when Marquis took over operations on November 1, 2017. After the renovation is completed, the total occupancy is budgeted at 92%.

Marquis' prior experience with other renovation projects demonstrates for a projected increase in managed care occupancy. Managed Care includes, Medicaid Managed Care Organizations, HMO insurances, Medicare Advantage, and others. Census and Payer trends show that over all census has increased for prior projects; short-term higher acuity census has increased significantly post renovation, while long-term census has also improved (Attachment #3). It is the increase in the short-term higher acuity Medicare and Managed care payers that support the facility financial viability. The BDO financial review dated November 13, 2017, states "Marquis has been able to effectively facilitate a shift of the payer mix from Medicaid to Medicare and HMO insurance plans". This shift is a direct result of Marquis' ability to increase volume of its short-term high acuity patients as well as the short to long term transition population. The current patient panel is primarily made up of long-term patients and it is expected that the long-term payer mix will remain relatively unchanged with the exception the Medicaid population moving away from fee-for-service to Medicaid Managed Care options as part of MassHealth's continuing initiatives.

MassHealth, as part of its Payment and Care Delivery Innovations, announced it will begin offering an expanded selection of health plan options to managed care eligible members (Attachment #7 - All Provider Bulletin 272). This is the next step from MassHealth, which has been pushing other managed care options such as SCOs and PACE organizations for some time.

A second important question is the discrepancy between the statement in the DoN Application that, "The Applicant does not anticipate that these proposed changes will impact their patient panel negatively and does not anticipate a change in patient or payer mix." And, the CPA statement that "Marquis has been able to effectively facilitate the shift of the payer mix from Medicaid to Medicare A and HMO insurance plans for facilities which were purchased in the region. As a result, we determined that the revenue projections by Management were reasonable." This implies that a significant change in payer mix is required for the financial projections to work. Please explain both the intent of the project with respect to payer mix, and the financial analysis. (Lucy Clarke email dated 01/12/2018)

Answer: The discrepancy appears to be based on the prior Operator being licensed for 140 beds versus North End using the current licensed capacity of 100 beds. Current occupancy is 82% up from approximately 75% when Marquis took over operations in November 1, 2017. There are currently 51 fee for service Medicaid Patients and 7 Long Term other payer patients such as Medicare, Managed Care and Private pay. After the renovation is completed, with total occupancy at the budgeted at 92%, the patient mix is expected to remain as 70% Long term and 30% Short term. The quality payers will increase in both populations which will increase overall payer mix.

While operating at 92% occupancy and with an improved facility Marquis is committed to keeping the number of fee-for service Medicaid patients unchanged. This represents 55% of the total patient population. (This is reflected in the BDO as 60% in 2018 and stabilizing at 48% by 2022). The total long term population is projected to stay at 70%, which will explain why we stated that we do not anticipate a change in patient mix.

North End	Current #	Current %	Post Renos	Post Reno %	
Long Term Care	58	71%	65	71%	No change in paitent mix
Medicaid FFS	51	62%	51	55%	
Quality Payers MCR/HMO	7	9%	14	15%	
Shon Term Care	23	29%	27	29%	No change in paitent mix
Medicare	10	13%	16	17%	
HMO & Private	13	16%	12	13%	
TOTAL Quality Payer	31	38%	41	45%	Increase in quality payer mix
TOTAL Medicaid	51	62%	51	55%	
TOTAL CENSUS	82	82%	92	92%	

The current patient panel is primarily made up of long-term patients and it is expected that the long-term population will remain relatively unchanged with the exception the Medicaid population moving away from fee-for-service to Medicaid Managed Care options as part of MassHealth's continuing initiatives.

MassHealth, as part of its Payment and Care Delivery Innovations, announced it will begin offering an expanded selection of health plan options to managed care eligible members (Attachment #7 - All Provider Bulletin 272.) This is the next step from MassHealth, which has been pushing other managed care options such as SCOs and PACE organizations for some time.

Many of these Medicaid Senior Care Organizations cover dually eligible (Medicare/Medicaid) patients. Rates paid by SCOs follow current Medicaid fee-for-service rates plus a percentage, or include enhanced rates for skilled ancillaries not covered by traditional Medicaid rates.

The intent of this project is to serve this patient panel, provide an improved experience for patients, and provide access to all seeking services regardless of payer source. The financial analysis takes into

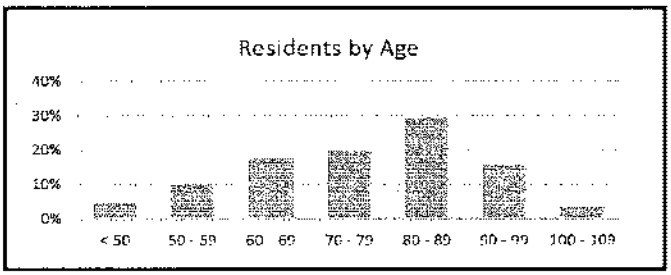
consideration the changing payment trends away from traditional fee-for-service models to the various managed care payment models.

Reference:

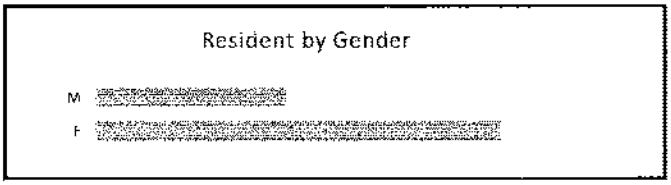
Attachment #1 – North End Patient Panel
Attachment #2 - CMS Casper Report
Attachment #3 – Marquis Pre/Post Construction Trends
Attachment #4 – The Gerontologist, "Exploring the Cost and Value of Private Versus Shared Bedrooms in Nursing Homes"
Attachment #5 – Marquis Health narrative of project
Attachment #6 – Physician support letters
Attachment #7 – MassHealth All Providers Bulletin 272

North End Patient Panel
December 2017 Data

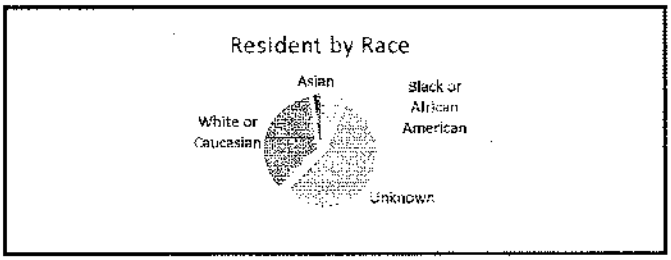
< 50	4.4%
50 - 59	9.9%
60 - 69	17.6%
70 - 79	19.8%
80 - 89	29.7%
90 - 99	15.4%
100 - 109	3.3%
Grand Total	100.0%



F	68.1%
M	31.9%
Grand Total	100.0%



Black or African American	6.6%
Unknown	56.0%
White or Caucasian	35.2%
Asian	2.2%
Grand Total	100.0%



Resident Facility	%
Medicare A	16%
Rehab	92%
Special Care High	2%
Special Care Low	3%
Clinically Complex	2%
HMO	3%
Private	15%
Medicaid	65%
T	15%
S	6%
R	23%
P	2%
N	4%
NJ	13%
M	13%
L	11%
K	2%
J	6%
H	2%
B	2%
Grand Total	100%

Zip Code	
02109 - Markets/Inner Harbo	31
02113 - North End	15
(blank)	5
02116 - Back Bay	4
02110 - Financial District	3
02149 - Everett	3
02128 - East Boston	3
02114 - West End	3
02129- Charlestown	2
02150 - Chelsea	2
02144 - Somerville	1
02125 - Dorchester	1
02151 - Revere	1
02180 - Stoneham	1
02332 - Duxbury	1
02122 - Dorchester	1
19139 - Philadelphia, PA	1
02061 - Norwell	1
02021 - Canton	1
02148 - Malden	1
02138 - Cambridge	1
02050 - Marshfield	1
02324 - Bridgewater	1
02152 - Winthrop	1
02121 - Dorchester	1
02459 - Newton Centre	1
75040 - Garland, TX	1
02118 - Roxbury	1
02368 - Randolph	1
02135 - Brighton	1
Grand Total	91

North End Payer Mix		
Jan 16, 2018 Census		
Pay Type	Total Census	Sum of TotalCensus
HMO		
Commercial HMO	1	1%
Managed with RUGs	1	1%
HMO Total	2	2%
Medicaid	51	62%
Medicare A	17	21%
Private	12	15%
Grand Total	82	100%

CASPER Report
MDS 3.0 Facility Characteristics Report

Facility ID: [redacted]
CCN: [redacted]
Facility Name: NORTH END REHABILITATION AND HEALTHCARE CENTER
City/State: BOSTON, MA
Data was calculated on: 01/15/2018

Report Period: 11/01/17 - 12/31/17
Comparison Group: 05/01/17 - 10/31/17
Run Date: 01/16/18
Report Version Number: 1.00

	Facility			Comparison Group	
	Num	Denom	Observed Percent	State Average	National Average
Gender					
Male	35	102	34.3%	37.4%	38.3%
Female	67	102	65.7%	62.6%	61.7%
Age					
<25 years old	0	102	0.0%	0.4%	0.4%
25-54 years old	6	102	5.9%	5.0%	5.6%
55-64 years old	16	102	15.7%	10.6%	11.1%
65-74 years old	22	102	21.6%	18.4%	19.8%
75-84 years old	25	102	24.5%	26.5%	27.8%
85+ years old	33	102	32.4%	39.2%	35.5%
Diagnostic Characteristics					
Psychiatric diagnosis	40	98	40.8%	60.2%	56.4%
Intellectual or Developmental Disability	1	46	2.2%	1.3%	1.4%
Hospice	3	102	2.9%	6.5%	6.5%
Prognosis					
Life expectancy of less than 6 months	3	102	2.9%	4.9%	5.5%
Discharge Plan					
Not already occurring	53	102	52.0%	55.6%	59.8%
Already occurring	49	102	48.0%	44.4%	40.2%
Referral					
Not needed	80	101	79.2%	85.4%	89.8%
Is or may be needed but not yet made	15	101	14.9%	3.4%	3.1%
Has been made	6	101	5.9%	11.2%	7.2%
Type of Entry					
Admission	74	102	72.5%	72.0%	69.8%
Reentry	28	102	27.5%	28.0%	30.2%
Entered Facility From					
Community	4	102	3.9%	8.6%	10.0%
Another nursing home	7	102	6.9%	5.6%	6.5%
Acute Hospital	87	102	85.3%	81.4%	79.6%
Psychiatric Hospital	0	102	0.0%	2.3%	1.9%
Inpatient Rehabilitation Facility	1	102	1.0%	1.1%	0.6%
ID/DD facility	0	102	0.0%	0.0%	0.0%
Hospice	0	102	0.0%	0.2%	0.4%
Long Term Care Hospital	3	102	2.9%	0.3%	0.3%
Other	0	102	0.0%	0.6%	0.8%

Illustration of Total Actual Census Prior to renovations and Post renovations

Facility Name (Multiple Items)

Actual ADC Column Labels

Row Labels	2016	2017	Increase In Total Census
Brentwood - MA	132	139	5.3%
Oakland	199	208	4.2%
Webster Park - MA	82	85	2.8%
Willow Springs	130	136	4.5%
Grand Total	**543**	**566**	**4.3%**

Illustration of Actual Daily Census prior to renovations and post renovations

Facility Name (Multiple Items)

Actual ADC Column Labels

	2013			2014				2015				2016				2017				2018	Grand Total	Actual Daily Census		
Row Labels	**Q1**	**Q2**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**			**Before**	**After**	
Brentwood																									
Long Term				88.4	85.9	87.0	86.7	89.0	94.1	92.9	94.4	91.4	86.9	85.0	98.8	93.6	92.4	97.2	107.0	103.6	107.0	92.4	Brentwood	89	99	10.5%
Short-Term				18.9	25.7	25.7	29.9	37.8	31.4	27.8	26.8	28.0	38.8	45.4	40.7	45.8	43.6	43.6	32.2	37.1	38.9	34.8		31	40	31.1%
Oakland																									
Long-Term										94.4	98.8	104.6	107.0	115.4	125.2	128.0	126.3	130.3	134.2	132.2	128.9	118.0	Oakland	110.5	130.4	18%
Short-Term										67.1	75.2	79.7	82.6	82.7	78.8	76.7	81.2	78.5	72.7	74.7	74.5	77.2		77.5	76.3	-2%
Webster Park																									
Long Term				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49.7	47.0	47.6	44.9	49.2	50.6	56.5	Webster	48.1	48.2	0.3%
Short Term				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31.7	35.9	35.8	36.8	40.4	45.8	30.8		34.4	40.85	18.9%
Willow Springs																									
Long-Term								64.4	65.5	63.9	62.4	58.5	59.8	57.0	71.7	76.0	73.2	67.5	73.5	82.9	80.3	68.3	Willow Springs	65.6	74.7	13.9%
Short-Term								41.2	48.1	50.9	43.4	50.6	64.9	54.9	57.6	57.3	64.3	66.2	63.5	55.4	51.1	56.7		53.2	60.1	13.0%
Grand Total		116.7	115.4	213.4	314.3	312.8	324.2	370.0	447.7	601.9	604.7	610.0	634.1	653.6	654.3	670.5	673.5	675.2	677.9	687.4	685.1	475.7				

Illustration of Quality Payer Mix/Other Payer Mix prior to renovations and post renovations

Facility Name (Multiple Items)

Actual ADC Column Labels

	2013			2014				2015				2016				2017				2018	Grand Total			
Row Labels	**Q1**	**Q2**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**			**Before**	**After**	**%**
Brentwood																									
OPM				84.2	83.5	82.3	84.1	90.5	89.1	86.6	85.2	82.8	82.7	84.5	84.1	93.0	86.2	94.5	98.8	96.1	97.5	87.8	Brentwood	85	93	9.4%
QMP				23.0	26.1	30.4	32.5	36.0	36.4	34.1	36.0	36.6	43.0	45.9	47.5	45.4	49.8	44.4	39.4	44.6	48.3	38.9		35	46	31.0%
Oakland																									
OPM										109.8	109.7	120.5	128.5	128.6	134.4	141.3	141.0	139.1	141.1	142.9	140.7	130.7	Oakland	123.3	140.9	14%
QMP										57.6	65.3	55.4	71.2	69.5	70.5	63.4	66.6	69.8	65.8	64.0	62.8	55.7		65.4	65.8	1%
Webster Park																									
OPM				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	57.7	57.6	52.2	51.2	58.3	61.3	62.8	Webster	54.2	56.9	5.1%
QMP				21.1	21.3	27.9	27.4	27.6	28.3	21.1	23.2	20.0	20.2	26.9	24.0	24.6	31.1	31.9	30.4	31.4	35.7	26.4		29.2	32.48	11.2%
Willow Springs																									
OPM								69.7	68.1	69.5	66.5	65.9	71.9	78.7	82.0	83.1	75.7	74.0	87.4	89.5	89.3	76.1	Willow Springs	72.8	83.2	14.2%
QMP								35.9	45.5	45.2	40.2	44.9	53.6	53.3	47.9	50.2	58.8	60.5	49.6	48.9	42.1	49.9		46.2	52.0	12.4%

Illustration of Average Length of Stay (Days) Prior to renovations and Post renovations.

Average LOS	Column Labels		
Row Labels	Pre Construction	Post Construction	Decrease In LOS
Brentwood	42	35	-17.4%
Oakland	34	26	-24.0%
Webster Park	24	18	-24.8%
Willow Springs	32	30	-5.9%
Grand Total	33	27	-18.0%

Illustration of 30 Day Readmission Overall Prior to renovations and Post renovations

Risk Adjusted 30 Readmission	Pre Construction	Post Construction	Grand Total
Willow Springs	18 %	15 %	-17.2%
Brentwood	18 %	17 %	-5.1%
Oakland	20 %	17 %	-16.2%
Webster Park	18 %	16 %	-11.9%
Grand Total	18%	16%	-12.6%

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Exploring the Cost and Value of Private Versus Shared Bedrooms in Nursing Homes

Margaret Calkins, PhD,[1] and Christine Cassella[2]

Purpose: There is debate about the relative merits and costs of private versus shared bedrooms in nursing homes, particularly in light of the current efforts at creating both cost-efficient and person-centered care facilities. The purpose of this project was to explore the extent to which there is evidence-based information that supports the merits of three different bedroom configurations: traditional shared, enhanced shared, and private. ***Design and Methods:*** We developed a framework of four broad domains that were related to the different bedroom configurations: psychosocial, clinical, operational, and construction or building factors. Within each dimension, we identified individual factors through the literature, interviews, and focus groups, with the goal of determining the breadth, depth, and quality of evidence supporting the benefits of one configuration over another. ***Results:*** The vast majority of factors identified in this study, regardless of whether there was solid empirical data, information from the focus groups, or other anecdotal evidence, indicated better outcomes associated with private rooms over shared rooms in nursing homes. Cost estimates suggest that construction cost (plus debt service) differences range from roughly $20,506 per bed for a traditional shared room to $36,515 for a private one, and that such differences are recouped in less than 2 years if beds are occupied, and in less than 3 months if a shared bed remains unoccupied at average private-pay room costs. ***Implications:*** Despite limited empirical evidence in some areas, this project provides the foundation for an evidence-based life-cycle costing perspective regarding the relative merits of different bedroom configurations.

Key Words: Construction, Design, Nosocomial Infection, Operational costs, Privacy

Nursing homes are under tremendous pressure to change. The traditional staff-centric or medical models are no longer considered appropriate, and a new emphasis on person-centered or self-directed care is emerging (Capitman, Leutz, Bishop, & Casler, 2004; Sloane & Zimmerman, 2005; Weiner, 2003). One central aspect of the change movement is greater emphasis on autonomy, dignity, and privacy. The value of private over shared bedrooms is central to this debate, with some researchers and providers arguing that the benefits of private rooms are either self-evident or well supported in the literature, and others suggesting that private rooms are too expensive to build and operate. Designers have added to the complexity of the issue by creating "enhanced shared" rooms, which either give each resident a well-defined and generally exclusive territory within the room or provide essentially private bedrooms with a shared bathroom. Although privacy and the benefits or detriments associated with it are central to this discussion, there are a host of other factors that are important. Nevertheless, there has been no systematic examination of the broad range of factors that are related to different bedroom configurations, and there is no cohesive body of evidence supporting either private or shared rooms in long-term-care settings. This is a timely issue, given that the average age of nursing homes is 29 years or more and many are being replaced now or in the near future (Lewis, 2005).

Our purpose in this exploratory project was to define as broad a range as possible of potential factors associated with different bedroom configurations, and to determine the extent of existing evidence, both empirical and anecdotal, that supports one bedroom configuration over another. In particular, our goal was to move beyond the relatively well-documented satisfaction-related outcomes to explore other factors that impact the life-cycle costs of private versus shared bedrooms.

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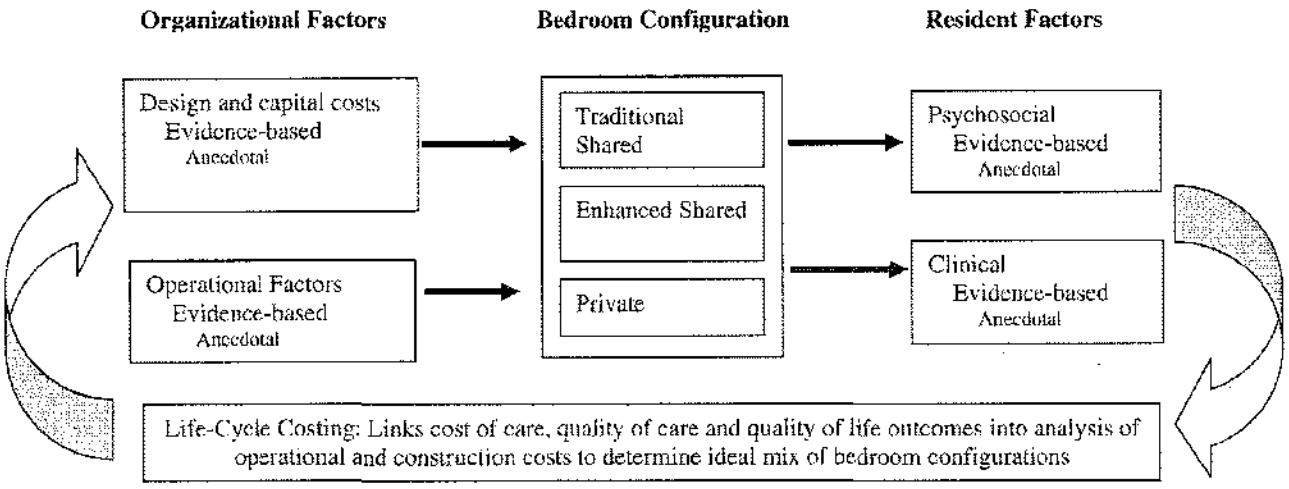

Figure 1. Conceptual framework.

The vast majority of research in nursing homes on this topic relates to psychosocial outcomes (preference and satisfaction). There is some, albeit more limited, research on clinical factors, although this is well studied in hospitals. Despite a growing interest in staffing issues, there is relatively little research that explores operational correlates of different room configurations on operational factors. Because of the lack of any previous comprehensive examination of the broad range of factors related to private rooms in nursing homes, for this project we drew on a framework developed by Chaudhury, Mahmood, and Valente (2005) to explore single- versus multiple-occupancy rooms in hospitals. Chaudhury and colleagues identified three clusters of factors: organizational costs (initial construction and ongoing operating costs), hospital management and patient care issues (infection control, patient transfer, and patient monitoring), and therapeutic impacts (privacy, stress, and family accommodation). We modified their framework slightly for this project, separating organizational factors from resident factors. Organizational factors can be further broken down into building-related issues (design and capital costs for construction and building operation) and operational issues (staffing issues, marketing or maintaining census, and time spent managing residents). Resident factors include psychosocial outcomes (well-being, satisfaction) and clinical issues (sleep, falls, nosocomial infections, etc.). This framework, shown in Figure 1, suggests that evidence (with greater weight on evidence-based outcomes than empirical outcomes) about resident factors should be fed into the decision-making process about design and operational issues (which also uses evidence-based and empirical information) to determine the ideal mix of bedroom configurations for a given project. Ideally, more research is then conducted on resident outcomes, which is fed back into the cycle again.

The issue of private rooms is of primacy in institutional settings—hospitals and nursing homes—where people often have little or no choice about where they live or with whom they may share a room. Different factors are more or less salient across these two settings. In hospitals, patients typically stay a few days or weeks at most. There may be multiple visitors every day, and there is a heavy focus on treatment and getting well enough to go home. Nursing homes provide support for chronic care; the length of stay is months to years, so issues of well-being and quality of life, as well as cost considerations, take primacy. This is generally reflected in the literature, with more research on clinical factors and accommodating family and visitors conducted in hospital settings, and an emphasis on well-being and quality of life in the nursing home literature. We explored the literature from both of these settings in order to identify the broadest range of potential factors.

Methods

We used an iterative process, alternating literature review with interviews and focus groups. We conducted a preliminary review of the literature by using the IDEAS Institute's in-office library (which has over 3,500 articles and books on long-term care catalogued) to explore factors and outcomes that may be associated with different bedroom designs (private vs shared). We grouped the factors topically into the aforementioned framework.

Before conducting a more thorough literature search, we conducted interviews with four nursing home administrators and four architects specializing in long-term care to flush out additional factors within each dimension that might not surface readily in the literature review. We then used these terms (from the initial search and the interviews) to conduct a systematic review of the literature. We conducted initial searches on Ageline and PubMed, and we included articles from 1970 to the present in our

search. As we identified and abstracted articles, we also culled their references for related articles. We included only those articles that specifically addressed bedroom design or configuration, both empirical and anecdotal. We categorized articles by setting and type (empirical or descriptive). Because some of the topics identified in the interviews were not found in the literature, we held focus groups in three nursing homes, with staff, family members, and residents in attendance, to further probe the importance of these other factors. We selected a focus group format because it allows for discussion among different departments (nursing, social work, housekeeping, maintenance, and dietary), and this setup can encourage fertile discussions about topics that are sometimes infrequently thought about. We used a semistructured discussion guideline to allow for open-ended discussion and to ensure that all topics were systematically covered; this also allowed us to identify additional factors. Focus groups were run by two individuals, with one serving as facilitator and one as recorder. We identified several additional factors through the focus groups, and we conducted a second literature search (following the same parameters already described) for references on these factors.

We identified a total of 112 articles. Although we made efforts to focus on references specifically related to nursing homes ($n = 55$), some topics were only addressed in articles related to other settings (hospitals, $n = 37$; independent or assistant living, $n = 7$; multiple settings, such as articles on transfers, $n = 7$; and other or nonsetting specific, $n = 6$). It is worth noting that none of the published references differentiated a traditional shared bedroom, in which beds are side by side and occupants share one window and one bathroom, from what we refer to in this article as an enhanced shared bedroom, which is a relatively newer configuration in which each person has his or her own distinct territory and window and does not have to cross into the roommate's space to reach his or her own (see Figure 2).

Because of an almost complete lack of information in the literature, we undertook a detailed analysis of bedroom design and construction costs for this project. We collected and analyzed 189 bedroom plans. We drew our sample from design firms that had nursing home projects published in any of the DESIGN issues of *Nursing Homes: Long-Term Care Management* magazine, plus 58 plans from another study (Kaup & Norris-Baker, 2004). DESIGN is a review of elder-related facilities that is judged annually by SAGE, the Society for the Advancement of Gerontological Environments. We contacted every design firm ($n = 36$) with a nursing home project; we described the purpose of our study, and we invited the firm to submit detailed bedroom plans for the project(s) that had been in DESIGN, as well as any other nursing home projects the firm had designed over the past 10 years. Twenty-four firms agreed and submitted plans. Twelve firms either refused ($n = 2$) or agreed ($n = 10$) but, despite repeated requests for plans over a 3-month period, never submitted. We acknowledge that this sampling method likely resulted in a slightly biased sample, in that these projects were, on the whole, considered worthy of being accepted for publication in a premiere design review publication. However, as our purpose in this study was not to estimate the percentage of rooms built in different configurations

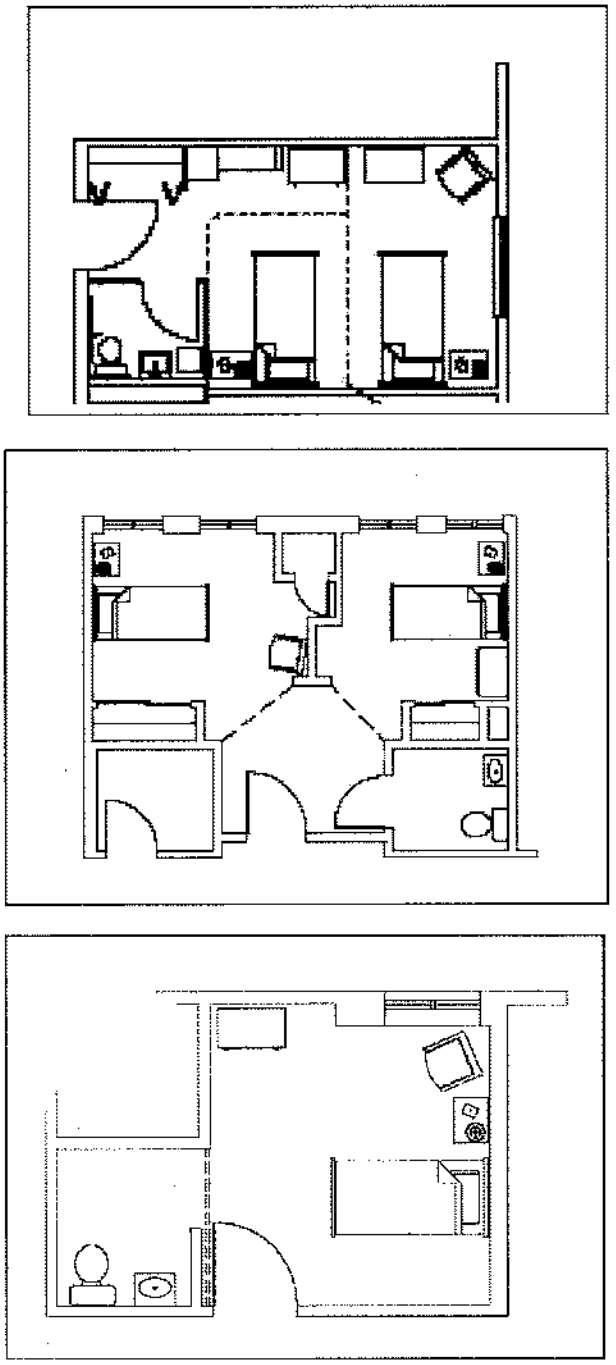

Figure 2. Different bedroom configurations: traditional shared, enhanced shared, and private.

but simply to estimate the costs of constructing different room configurations, we did not consider this bias to be a serious flaw.

Results of the Literature Review

We identified a total of 38 different factors within the four dimensions of the model. We identified most of the factors in at least one published reference, although there were several factors that we identified in focus groups that we did not find in the literature on either nursing homes or acute care settings (we discuss this issue separately). The vast majority of references related to the resident side of the model (psychosocial and clinical) as opposed to operational and building factors. The appendix lists the references, the setting (hospital, nursing home, etc.), and which factors we identified in each article. Because the purpose of this project was not a meta-analysis of extant research but rather an exploration of the broadest range of possible factors, we provide no other analysis of the articles.

Psychosocial Factors.—There is strong evidence that, as a general cohort, older adults overwhelming prefer private rooms over shared rooms in residential settings, potentially even among people who thought they would prefer a shared room. A study by the American Association of Retired Persons found that individuals over the age of 50 preferred a private room by a ratio of 20:1 (82% vs 4%; see Baugh, 1996). These results replicate early research on the preference for private rooms conducted by Lawton and Bader (1970). The primary factors that influence this preference appear to be privacy (for self and when conversing with others), lack of control (over lifestyle and environment), and feeling uncomfortable being forced to be an "unwilling observer" to others, though several of these come from anecdotal resources and not empirical studies.

There is also evidence that seniors tend to express satisfaction with their current living situation, regardless of the objective quality of that housing (Pinquart & Burmedi, 2004). However, in a small-scale study conducted in Japan, Terakawa (2004) studied residents who moved from an older nursing home where all bedrooms were traditional shared bedrooms to a new nursing home where all residents had private rooms. The results indicated that even people who initially did not want a private room and expected not to like having a private room were completely satisfied with their private room by 8 months after the move. These results suggest that expressed opinion about satisfaction with or preference for a shared room may be based on being reasonably satisfied with a current situation (in a shared room) and may not be based on experience in both a private and shared bedroom. Other researchers have found that having a private bedroom is among the most desired changes of nursing home residents (Mosher-Ashley & Lemay, 2001). Residents who desired more privacy had lower life satisfaction than did residents who felt they had sufficient privacy.

There is a related concept of privacy with visitors, though the vast majority of research on this topic comes from acute care settings, where visiting, often with multiple people, occurs on a more frequent basis. Patients feel they have better visits with families in a private room, and they express higher satisfaction with this configuration (Chaudhury et al., 2005; Ulrich & Zimring, 2004).

Lack of control is another commonly cited factor that impacts preference for a private room in nursing homes. Common issues that cause conflicts between roommates include the television and radio (on or off, volume, and program selection); the time to get up and go to bed; having curtains open or closed; having the door to the hallway open or closed; heating, ventilation, and air conditioning levels; and the personalization or decoration of one's room (Foltz-Gray, 1995; Harris, McBride, Ross, & Curtis, 2002; Kaldenberg, 1999; Kane, Baker, Salmon, & Veazie, 1998; Ulrich & Zimring, 2004).

There is also some limited, mostly anecdotal, evidence about the positive benefits of sharing a room. Bitzan (1998) studied 31 nursing home residents who lived in shared rooms and found that 22% indicated an overall strong or positive emotional bond with their roommate, whereas 78% had a moderate or weak emotional bond with their roommate. Interestingly, even among those who indicated a positive emotional bond with their roommate, the majority did not enjoy spending time with their roommate, did not perceive their roommate to be sensitive to their feelings, and agreed they got along best when they kept their feelings and activities to themselves.

Clinical Factors.—In clinical terms, the evidence is strong on iatrogenic outcomes, especially related to nosocomial infections. Pneumonia, the leading cause of death among nursing home residents, with overall mortality rates reported between 20% and 50% and as high as 80% in some studies (Zimmerman, Gruber-Baldini, Hebel, Sloane, & Magaziner, 2002), is the second most frequent nosocomial infection in nursing homes (Harkness, Bentley, & Roghmann, 1990). The vast majority of research suggests that there is a reduced risk of developing a nosocomial infection in a private room than in a shared bedroom (Fune, Shua-Haim, Ross, & Frank, 1999; Pegues & Woernle, 1993; Sharbaugh, 2003; Zimmerman et al.), although much of the research was conducted in acute care settings (Ben-Abraham et al., 2002; Berry, 2004; Boyce, Potter-Bynoe, Chenevert, & King, 1997; Chang & Nelson, 2000; Chaudhury, Mahmood, & Valente, 2004; Coleman, 2004; Drinka, Krause, Nest, Goodman, &

Gravenstein, 2003; Ulrich & Zimring, 2004). Research conducted in nursing homes found that roommates of individuals infected with Influenza A had a 3.07 relative higher risk of acquiring the illness than did individuals in a private room (Drinka et al.). This statistic, combined with the 3.5% excess mortality rate associated with acquiring Influenza A, has serious life-threatening implications. Similarly, Pegues and Woernle found that 84% of nursing home residents who developed acute nonbacterial gastroenteritis during an outbreak lived in a room with a roommate, whereas only 16% of residents who became ill lived in private rooms. Beyond the potentially life-threatening consequences, there are also significant cost implications of nosocomial infections in nursing homes, which are estimated in one study to be in the range of $1 billion (Kayser-Jones, Wiener, & Barbaccia, 1989).

The empirical evidence of the negative impact on sleep in shared rooms in hospitals is fairly strong (Duffin, 2002; Ulrich & Zimring, 2004), although in nursing homes the evidence is weaker (Schnelle, Alessi, Al-Samarrai, Fricker, & Ouslander, 1999).

Falls prevalence was also hypothesized to be related to private rooms. However, we found no research that specifically linked the prevalence of falls to being in a private versus shared room in nursing homes. There were some suggestions, though no empirical evidence, that placing people who are at a high risk of falls in multibed rooms in hospitals might reduce the occurrence of falls, as roommates could remind individuals not to rise without assistance (Chaudhury et al., 2005; Tutuarima, van der Meulen, de Haan, van Straten, & Limburg, 1997).

Operational Factors.—We identified two issues in the literature that relate to operational efficiency: the marketing of shared rooms, and the quality of staff–resident communications. However, empirical studies on both these topics are practically nonexistent, and virtually all of the evidence on this topic comes from interviews, focus groups, and a few descriptive articles. Duffin (2002) and Fisher (1995) both suggest that it is harder to market shared rooms, in part because of gender-matching issues and in part because of a preference for private rooms. However, we found no empirical studies to support these anecdotal descriptions.

Information on the quality of resident-staff communications comes primarily from hospital studies (Berry, 2004; Ulrich & Zimring, 2004). The Healthcare Insurance Portability and Accountability Act regulations, known as HIPAA, mandate the implementation of certain confidentiality procedures. Having a conversation with a resident about private medical matters is much more difficult when there is a roommate in the room, though this issue is certainly more relevant in a hospital setting than a nursing home, where HIPAA concerns are often focused on communication at the nursing station, not in the bedroom.

There were also some references that discussed the positive consequences of shared rooms in terms of staff efficiency, although again this literature was mostly conducted in hospital settings. Chaudhury and colleagues (2004) found that the only dimension that nurses in four hospitals rated private rooms worse than shared rooms was on walking distance from the nursing station. However, this may have as much to do with unit configuration as it does with the percentage of private rooms. Several studies have shown that radial units are much more efficient, from the perspective of walking distance and time spent walking, than corridor designs (Shepley & Davies, 2003; Trites, Galbraith, Sturdavant, & Leckwart, 1970), regardless of bedroom configuration, and these results may be translatable to a nursing home setting.

Building Factors.—There are very few empirical studies exploring construction or ongoing building-related costs of nursing homes. The only relevant construction cost analysis that we identified was conducted by Chaudhury and colleagues (2005) of private versus shared rooms in hospitals. They calculated gross floor area per bed (for the whole unit, which includes all shared social spaces and staff support areas), and they estimated construction at $285/ft^2 ($285/0.09m^2). Using this format, they estimated the cost per patient room at $182,400 per patient in all private room configurations and $122,550 per patient in mixed (some private and some shared room) configurations, suggesting that all private rooms would cost substantially more to construct.

Results of Interviews and Focus Groups

In general, the interviews and focus groups reinforced the information we gleaned from the literature review, and we identified a number of additional topics. In addition, two of the focus group facilities had enhanced shared rooms, which staff felt impacted many of the topics of discussion. We found no mention in the published literature on this room configuration.

Psychosocial Factors.—Staff and residents echoed the strong preference for private bedrooms found in the literature. In one facility that had a number of enhanced shared rooms, staff and residents alike said these rooms were perceived more like a "private room with a shared bathroom" than a shared room, with all the benefits thereof. Issues related to visiting appeared to be most critical during the death and dying process. Most family members want to be close to the dying relative but are sensitive to the fact that they are also in someone else's room. Families feel bad for the other

resident and the encroachment of their family, and the resident who is not dying is also uncomfortable, having to intrude on what should be a private time for the family. Staff in the focus groups felt that being in a shared room sometimes kept as many family members from gathering or staying as long as they would have preferred.

Clinical Factors.—Discussion of clinical factors in the interviews and focus groups related primarily to sleep and falls. Both residents and staff indicated that an individual is more likely to wake up when a staff member enters the room and provides care to a roommate than when the individual lives alone, although this may be mitigated in some enhanced shared rooms, depending on the level of acoustic separation between the residents. This can be a serious disruptor of sleep, because some individuals are checked every two hours. Staff members were uncertain how much of an impact frequently interrupted sleep had on residents the next day. In addition, several staff at different facilities indicated they were sure that there are more falls in shared rooms, though they had no hard data to support this. We identified several other factors as potential clinical outcomes related to private versus shared rooms in the focus groups that were not apparent in the literature, including the use of as-needed (known as PRN) and psychotropic medications, the rate of distressed behaviors by residents (particularly residents with dementia), and medical error rates. However, information on these topics from the focus groups was mixed.

Operational Factors.—Not surprisingly, much of the discussion in the interviews and focus groups revolved around operational issues, as these are of primary concern to staff and administrators. Topics included increased time and effort for marketing and admissions, time spent dealing with families, time spent managing conflict, and time spent managing transfers, all of which appear to be greater with shared rooms than private rooms.

Focus group participants agreed with the limited literature about the increased difficulty of marketing shared rooms (which translates into greater costs). None of the focus group facilities had an open bed available in a private room, though there were several openings in shared rooms. When a private room becomes available, staff indicated that it is always filled immediately, often from someone in house who has been waiting. One focus group was held in the nursing home of a retirement community, and staff indicated that residents were leaving the campus to go to a different nursing home rather than move into a shared room, which represents lost income for the facility.

The management of roommate conflict had even greater cost implications. We found no empirical evidence related to the time spent managing roommate conflict in the literature, but the staff in the focus groups indicated that it could be substantial. Estimates of the average time spent (recognizing that on any given week it could be considerably higher) ranged from 2 to 25 hours per week. Apparently, it is not just the social workers and nursing staff who spend time on roommate issues. One housekeeper indicated she spends more time with residents in shared rooms who are upset by something than she spends with residents in private rooms, who seem to be upset less often.

If resolution of differences between residents is not possible, and the decision is made to relocate a resident, there are additional operational costs. Room-cleaning time and maintenance issues are greater at the time of relocation than routine room care is. All furniture must be removed and disinfected, and any maintenance issues (patching walls where personal belongings hung, repainting, and stripping and refinishing the floor) must be addressed. This also causes disruption to the remaining resident, who cannot access his or her room while it is being cleaned. In one facility, this process was estimated to add an additional 90 min of cleaning time over routine cleaning.

All these costs may be further compounded by the fact that, when a building is close to full, there may not be an appropriate empty room available into which the individual who is relocating can move. All facilities indicated that unanticipated resident relocation because of roommate problems can cause a domino effect, requiring one, two, or sometimes up to three other residents to also relocate. Each of these relocations also takes a substantial amount of staff time, as staff members explain to residents and families why it is best for someone, who may be relatively happy in her or his current location, to move. Often people do not want to move, forcing nursing staff to use their authority that it "is in everyone's best interest." This directly contradicts the principles of person-centered or self-directed care, as residents are given little or no choice or control in these situations. The time-management consequences, especially for nursing and social workers, can be substantial, though this remains undocumented. Finally, depending on where the individual(s) are relocated to (i.e., a different unit or household), staff may have to spend additional time getting to know the resident and his or her clinical needs and daily routines and helping the resident adjust to a new roommate. Thus, there are not only operational costs but also negative clinical correlates of this type of move.

We identified a few additional operational correlates in the focus groups. Several housekeepers indicated that private rooms take less time to clean than shared rooms, not just because there are two people in a shared room. In several facilities, housekeepers and direct care staff said that people

in private rooms seem to "keep their spaces better." They speculated that there is a greater sense of ownership of the whole room as personal territory in a private room, whereas in a shared room, everything feels like common space, and people don't take as much care of it. There were also some cost factors related to lost income from rehabilitation residents who wanted to be discharged sooner because they were uncomfortable in shared bedrooms. Medicare Part A reimbursement rates are substantially higher, so an early discharge may mean both lost revenue and increased risk for people returning home before they are ready.

Results of the Bedroom Plan Analysis

In this project we conducted an analysis of 189 bedrooms to compare the construction costs of three bedroom configurations: traditional shared, enhanced shared, and private. Table 1 shows the average and range of the size of the three bedroom configurations.

To estimate the cost of construction, we made detailed measurements of wall length (differentiating exterior, interior room to room and interior to corridor, and plumbing wall), and we noted windows, presence of a closet, size of room, plus associated bathroom, shower and other fixtures, and more. We based cost estimates on exact dimensions of each element of the bedroom and adjoining bathroom, using standard commercial-grade-construction assumptions (e.g., slab on grade, 2 × 4 framing, vinyl exterior, 0.5-in. or 1.27-cm drywall, painted walls, vinyl flooring, wood truss roof system, 20-year shingle) for the Cleveland, Ohio area. The average per-person cost of a private room is more expensive at $14,906 per person than that of an enhanced shared room at $10,301 per person, which itself is more expensive than a traditional shared room at $8,252 per person. (Additional information about cost analyses including additional specifics of cost breakouts, analyses including associated hallway spaces, and low-end vs high-end construction assumptions are available at www.IDEASInstitute.org). When the cost of debt service is added (7% for 30 years), these costs per bed increase to $36,515, $25,121, and $20,506 for private, enhanced, and traditional rooms, respectively.

Although the costs themselves are clearly higher for a private room, the significance of this difference remains unclear. In a private pay market, there is typically a difference in the cost of a shared bedroom and that of a private room. A large national study found that difference to be $23 ($167 for shared, and $190 for private; see Genworth Financial, 2005). Because there is no revenue data on enhanced shared rooms, we combined the data from the two shared configurations, for an average cost of $22,814 per person for shared rooms. Thus the difference in construction costs between a private and a shared room, per person, is $13,702. If a facility charges $23 more for a private room, the difference in costs (including debt) to construct a private room as opposed to a shared room can be recouped in less than 2 years (596 days). This assumes the shared room has two occupants. If, in fact, a bed remains unoccupied (possibly because potential residents choose to go to a facility that offers private rooms), then the revenue difference is not $23 per day, but $167 (if we assume there is one empty bed). In that case, the time it would take to recoup the cost of constructing a private room drops to 82 days, or less than 3 months. Stated another way, for every 82 resident days below full census, the facility could have built a private room with the lost revenue. After the 82 days, the facility is actually making more money on the private room that it would make on the shared room.

This analysis, of course, is based on the assumption of a cost differential of $23 between a private and a shared bedroom. If a facility is housing people who are on Medicaid, then the cost analysis changes. Generally speaking, Medicaid will not pay extra for a private room, unless it is medically necessary. The state of Michigan, however, has recognized the tremendous benefits of private rooms, and it now includes in their capital cost formula an additional $5 per patient per day for private rooms (up to 100 beds). Even with this minor increase, it would only take a facility 7.5 years to recoup the construction cost differential. If we assume that there is a 30-year mortgage, it means the facility is ahead, financially, for 22 years of the mortgage. This analysis is summarized in Table 2.

Table 1. Room Size of Three Bedroom Configurations

Configuration	Room Size	
	ft^2/room	ft^2/person
Traditional shared	270 (182–380)	135 (91.0–190)
Enhanced shared	326 (155–562)	163 (77.5–281)
Private	214 (101–450)	214 (101.0–450)

Note: Room size range is shown in parentheses.

Discussion

The vast majority of factors identified in this study indicated better outcomes associated with private rooms over shared rooms in nursing homes. The evidence is strongest for psychosocial issues, particularly related to preference and satisfaction for families and staff as well as residents. In clinical terms, the evidence is strong on iatrogenic outcomes, especially related to nosocomial infections. Evidence of impact of room configuration on falls and sleep hygiene is weaker. There are numerous operational factors that suggest that staff members spend more

Table 2. Breakdown of Construction Costs Plus Debt and Time to Recoup the Cost Differential

Room Type	Construction and Debt Cost ($)	Cost Differential ($)	Time to Recoup			
			Occupied @ $23	Unoccupied @ $167	Unoccupied @ $5	@ $1.25
Shared	22,814					
Private	36,515	13,702	596 days	82 days	7.5 years	30.0 years

Note: Construction and debt cost is shown per person.

time managing difficult situations when people have roommates than when they do not, and possibly more resources cleaning and maintaining shared rooms, though these findings are from the focus group and are not found in the research literature. Finally, the construction cost analysis suggests that although private rooms cost more to construct, the difference in costs may not be as significant as some people have argued. Even with a modest $5 a day differential room rate, the cost of construction and debt of a private room versus a shared room can be recouped in less than 8 years.

One weakness to this analysis is that it was not possible to estimate the associated unit size differences caused by having more private rooms. It is argued that unit or household size and configuration (radial, open plan, hallway plan, or other variation) has a more significant impact on overall unit or household size than the number of private versus shared rooms. A study that expanded the plan analysis to include the whole unit configuration would shed light on this.

There is clearly a need for much more research in this area. Two or three potential topics for each domain of the framework are suggested here. In terms of psychosocial issues, researchers must analyze whether individuals who indicate they are satisfied with a shared room would be more satisfied with a private room if they had the opportunity to experience one. Consideration should also be given to what characteristics (of the individual or the situation) differentiate people who prefer a shared room from a private room. Surprisingly, there was very little information specific to the needs or preferences of people with dementia. In terms of clinical outcomes, the relationship of bedroom configuration to incidence of increased disruptiveness, distress, agitation, or aggression, particularly in individuals with dementia, requires more study. This area, in particular, should focus on the three different bedroom configurations (i.e., it should differentiate between traditional and enhanced shared rooms). There is also a need for greater understanding of the impact of the presence of a roommate on falls, because of the serious morbidity issues associated with falls.

Operational correlates of private versus shared bedrooms are not well addressed in the extant literature, although the focus groups indicated a number of issues worthy of further exploration. The issue with the largest financial impact relates to lost revenue from being unable to fill a shared room when an individual would have agreed to move into a private room. A related topic would be an exploration of the differential costs of marketing a shared room versus a private room versus an enhanced shared room. There is clear, albeit anecdotal, evidence that roommate conflict can occupy a substantial portion of staff time. Although having all private rooms might free up staff time, it will not necessarily reduce costs. The question is what staff members do with this time—whether this translates into better care. The focus groups suggested that maintenance and housekeeping costs are higher per person for shared rooms than for private rooms, but there is no concrete evidence to support this.

On the cost of construction side, an analysis of how unit layout relates to bedroom configuration and therefore costs would be of great benefit to the industry. This might also be tied to staff efficiency studies, such as tracking how much time is spent walking to destinations in units with different layouts.

Across all topics, attention should be given to differentiating between bedroom configurations. The vast majority of studies that we reviewed do not include bedroom configuration as a variable, and none have explored differential impacts of the enhanced shared bedrooms. A more detailed study of this should consider differentiating territory-enhanced rooms, where each person has her or his own territory but spaces are separated by a curtain (and thus lack auditory and olfactory privacy), from privacy-enhanced bedrooms, where each person has, in essence, a private bedroom with a solid door but shares the bathroom.

Currently, the Medicaid program serves as a disincentive to construct private rooms. Private rooms do cost more to construct, and there is, with few exceptions, no additional reimbursement to cover these additional costs. Given the need to control costs, it would not be inappropriate to suggest that additional reimbursement should equal (not exceed) the additional cost of construction plus debt service. An increase of $1.25 a day would cover the costs as assumed in this model in 30 years (the assumed length of the mortgage).

The evidence on preferences, satisfaction, and quality of life for residents living in private rooms in nursing homes is substantial. Virtually all other factors that impact life-cycle costs also trend toward better indicators for private rooms, although there is a need for better evidence to support this. Even the cost analysis suggests that, with a relatively minor increase in reimbursement, the differential construction and capital costs can be recovered. Unfortunately, some providers and designers, and well as the regulators and legislators who control Medicaid budgets, are not yet swayed by this evidence, and they are still building shared rooms. Over the next decade many nursing home buildings will be significantly renovated or replaced. There is a clear need for more evidence-based information, with widespread dissemination efforts, to support making more informed, evidence-based decisions.

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Attachment #4

Appendix

Ref	Setting	Physical: SQ Ft	Physical: Maintenance	Physical: Housekeeping	Physical: Energy	Physical: Room Functionality	Physical: Room/Hospital Design	Physical: Construction costs	Operational Issues: Transfer Issues	Operational Issues: Time spent working	Operational Issues: Occupancy rates	Operational Issues: Time to do admissions	Operational Issues: Time w/ roommate conflict	Operational Issues: Time w/family concerns	Operational Issues: Length of stay	Operational Issues: Staff turnover	Operational Issues: Resident turnover	Operational Issues: Other 1	Operational Issues: Costs (General)	Psycho-Social: Resident Satisfaction & Qol	Psycho-Social: Resident Preferences & control	Psycho-Social: Staff satisfaction	Psycho-Social: Family satisfaction	Psycho-Social: Assistance cal's	Psycho-Social: Communication quality	Psycho-Social: Self-esteem	Psycho-Social: Roommate Relationships	Psycho-Social: Concept of home	Psycho-Social: Autonomy/Dignity	Psycho-Social: Privacy	Clinical Outcomes: Liver quality	Clinical Outcomes: Falls	Clinical Outcomes: Hospitalization rate	Clinical Outcomes: Adverse drug reaction	Clinical Outcomes: Mental health	Clinical Outcomes: Disrupt verb/distressed behavior	Medical error rates	Nosocomial infection
Kane, R. (2001). Long-Term Care and a Good Quality of Life: Bringing them Closer Together. The Gerontologist, 41(3), 293-304.	NH																		x	x						x	x	x									
Kaup, M., & Norris-Baker, L. (2004). The role of space in the changing culture of Long-term care: Opportunities for promoting resident autonomy in the built environment. Paper presented at the 57th Annual Scientific Meeting of the Gerontological Society of America, Washington DC.	NH	x				x																					x	x									
Kayser-Jones, J. S., Wiener, C.L., Barbaccia, J.C. (1989). Factors Contributing to the Hospitalization of Nursing Home Residents. The Gerontologist, 29(4), 502-510	NH								x									x													x						
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Medina-Walpole, A. K. P. (1999). Nursing Home-Acquired Pneumonia. JAGS, 47, 1005-1015.	NH								x																						x	x	x				x
Miller, S., Gozalo, P., Mor, V. (2001). Hospice Enrollment and Hospitalization of Dying Nursing Home Patients. The American Journal of Medicine, 111, 38-44.	NH																	x	x	x												x					
Mirotznik, J. (2002). Does Cognitive Status Moderate the Health Effects of Single-Person Room Transfers on Nursing Home Residents? The Gerontologist, 42(5), 634-642.	NH								x																	x								x			
Mosher-Ashley, P., & Lemay, E. (2001). Improving residents' life satisfaction. Nursing Homes and Long-Tim Care Management Magazine, 50(5), 50-54.	NH																		x		x								x				x				
Mylotte, J., Goodnough, S., Gould, M. (2005). Pneumonia Versus Aspiration Pneumonitis in Nursing Home Residents: Prospective Application of a Clinical Algorithm. JAGS, 53, 755-761.	NH																																			x	
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Porell, F. C., M. (2005). Discretionary Hospitalization of Nursing Home Residents With and Without Alzheimer's Disease. Journal of Aging and Health, 17(2), 207-238.	NH																															x					
Quang Vu, M., Weintraub, N., Rubenstein, L. (2004). Falls in the Nursing Home: Are They Preventable? A Journal of the American Medical Directors Association, 6, S82-S87.	NH																														x						
Ray, W. A., Thapa, P., Gideon, P. (2000). Benzodiazepines and the risk of falls in nursing home residents. Journal of the American Geriatrics Society, 48(6), 682-685.	NH																														x						
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Shanbaugh, R. (2003). When drugs don't kill "bugs". Nursing Homes and Long-Term Care Management Magazine, 52(5), 70-73.	NH																												x								x

Reference	Setting	Physical							Operational Issues										Psycho-Social											Clinical Outcomes								
		SQ Ft	Maintenance	Housekeeping	Energy	Room Functionality	Room/Hospital Design	Construction costs	Transfer issues	Time spent walking	Occupancy rates	Time to do admissions	Time w/ roommate conflict	Time w/ family concerns	Length of stay	Staff Turnover	Resident turnover	Other 1	Costs (General)	Resident Satisfaction & QoL	Resident Preferences & control	Staff satisfaction	Family satisfaction	Assistance calls	Communication quality	Self-esteem	Roommate Relationships	Concept of home	Autonomy/Dignity	Privacy	Sleep quality	Falls	Hospitalization rate	Adverse drug reaction	Mental health	Disruptive/distressed behavior	Medication errors rates	Nosocomial infection	Use of psychotropic medication
Barker, W., Zimmer, J., Hall, W., Ruff, B., Freundlich, C., Eggert, G. (1994). Rates, Patterns, Causes, and Costs of Hospitalization of Nursing Home Residents: A Population Based Study. American Journal of Public Health, 84(10), 1615-1620.	NH																															x						
Blizen, J. (1998). Emotional Bondedness and Subjective Well-Being. Journal of Gerontological Nursing, 8-15.	NH																	x		x						x								x				
Bookwak, K., Gruber-Baldini, A., Burton, L., Zimmerman, S., May C. & Magaziner, J. (2005). Outcomes of Infection in Nursing Home Residents with and without Early Hospita. Transfer. JAGS, 53, 590-596.	NH								x																						x	x	x				x		
Bowman, C., Elford, J., Dovey, J., Campbell, S., Barrowclough, H. (2001). Acute Hospital Admissions from Nursing Homes: Some May be Avoidable. Postgrad Medical Journal, 77, 40-42.	NH								x																							x						
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de Veer, A., Kerkstra, A. (2001). Feeling at home in nursing homes. Journal of Advanced Nursing, 35(3), 427-434.	NH																			x	x						x		x	x	x							
Drinka, P., Krause, P., Nest, L., Goodman, B., & Gravenstein, S. (2003). Risk of acquiring influenza A in a nursing home from a culture-positive roommate. Infection Control and Hospital Epidemiology, 24, 872-874.	NH																																			x		
Fisher, C. (1995). Redesign emphasizes homelike environment. A new look for nursing homes. Provider, 30(11), 36-44.	NH						x																															
Fritz-Gray, D. (1995, June 1995). Intimate Strangers. Contemporary Long Term Care, 32-37.	NH																			x		x					x		x		x							
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Ref	Setting	Physical: SC Fl	Maintenance	Housekeeping	Energy	Room Functionality	Room/Hospital Design	Construction costs	Operational Issues: Transfer issues	Time spent walking	Occupancy rates	Time to do admissions	Time w/ roommate conflict	Time w/ family concerns	Length of stay	Staff turnover	Resident turnover	Other	Costs (General)	Psycho-Social: Resident Satisfaction & QoL	Resident Preferences & control	Staff satisfaction	Family satisfaction	Assistance calls	Communication quality	Self-esteem	Roommate Relationships	Concept of home	Autonomy/Dignity	Privacy	Clinical Outcomes: Sleep quality	Falls	Hospitalization rate	Adverse drug reaction	Mental health	Disruptive/distressed behavior	Medical error rates	Nosocomial infection
Hawes, C., Phillips, C., Rose, M. (2000). High Service or High Privacy Assisted Living Facilities, Their Residents and Staff: Results from a National Survey. Retrieved October 6, 2001, from http://aspe.hhs.gov/daltcp/reports/hshp.htm	AL																			x																		
Kane, R., Baker, M., Salmon, J., Veazie, W. (1998). Consumer Perspectives on Private Versus Shared Accommodations in Assisted Living Settings. Washington, DC: The Public Policy Institute.	AL																				x						x	x	x	x								
Namazi, K., Eckert, J., Kahana, E. & Lyon, S. (1989). Psychological Well-Being of Elderly Board and Care Home Residents. The Gerontologist, 29(4), 511-516.	AL																		x	x					x		x							x				
Zeltzer, B. (2000). Pairing a dementia resident with a roommate may aid depression. The Brown University Geropsych Report, 4(3), 6-8.	AL																			x						x				x				x	x			
Kirk, S. (2002). Patient preferences for a single or shared room in a hospice. Nursing Times, 98(50), 39-41.	Hospice						x														x	x							x	x								
Ben-Abraham, R., Keler, N., Szold, O., Vardi, A., Weinberg, V., Barzilay, Z. & Paret, G. (2002). Do Isolation Rooms Reduce the Rate of Nosocomial Infections in the Pediatric Intensive Care Unit? Journal of Critical Care, 17(3), 176-180.	Hospital						x																														x	
Berry, L. (2004). Evidence Based Hospital Design Improves Healthcare Outcomes for Patients, Families, and Staff. Retrieved May 24, 2005, from http://www.rwjf.org/newsroom/newsreleasedetail.jsp?id=10298	Hospital						x												x				x						x	x							x	
Blomkvist, V., Eriksen, C., Theorell, T., Ulrich, R., & Rasmanis, G. (2005). Acoustics and psychosocial environment in intensive coronary care. Occupational and Environmental Medicine, 62(3), e1-8.	Hospital																					x																	
Bogdanov, K., Litke, A., Penrod, J., Ham, E., Morrison, R., Silberzweig, S., Magaziner, J., Koval, K., Siu, A. (2004). Patient Relocation in the 6 Months After Hip Fracture: Risk Factors for Fragmented Care. Journal of American Geriatrics Society, 52, 1826-1831.	Hospital								x						x				x		x											x		x					
Boyce, J., Potter-Bynoe, G., Chenevert, C., King, T. (1997). Environmental Contamination due to Methicil-in-Resistant Staphylococcus Aureus: Possible Infection Control Implications. Infection Control and Hospital Epidemiology, 18(9), 622-627.	Hospital																																					x
Chang, V., & Nelson, K. (2000). The role of physical proximity in nosocomial diarrhea. Paper presented at the Clinical Infectious diseases.	Hospital																																					x
Choudhury, H., Mahmood, A., & Valente, M. (2004). Nurses' perceptions of single versus multi occupancy rooms in acute care environments: An exploratory comparative assessment. Vancouver: Simon Fraser University.	Hospital									x									x			x								x	x							x
Choudhury, H., Mahmood, A., Valente, M. (2005). Advantages and Disadvantages of Single Versus Multiple-Occupancy Rooms in Acute Care Environments: Environment and Behavior, 20(10), 1-27.	Hospital	x	x	x	x			x											x	x		x							x	x	x				x		x	x
Creditor, M. (1993). Hazards of Hospitalization of the Elderly. Annals of Internal Medicine, 118(3), 219-223.	Hospital								x											x												x		x				
Duffin, C. (2002). Private Rooms in Hospital 'Would Hasten Recovery'. Nursing Standard, 16(37), 8.	Hospital					x	x			x																			x	x								
Gabor, J., Cooper, A., Crombach, S., Lee, B., Kadikar, N., Bettger, H. & Parthy, P. (2003) Contribution of the Intensive Care Unit Environment to Sleep Disruption in Mechanically Ventilated Patients and Healthy Subjects. American Journal of Respiratory Critical Care Medicine, 167, 708-715.	Hospital																													x								
Gardner, P., Court, S., Brocklebank, Downham, M., Weightman, D. (1973). Virus Cross-Infection in Pediatric Wards. British Medical Journal, 2, 571-575.	Hospital						x																															x
Gillick, M., Serrell, N. & Gillick, L. (1982). Adverse Consequences of Hospitalization in the Elderly. Soc. Sci. Med., 16, 1033-1038.	Hospital																															x	x	x				
Hanson, L., Weber, D., Rutala, W., Samsa, G. (1992). Risk Factors for Nosocomial Pneumonia in the Elderly. The American Journal of Medicine, 92, 161-166.	Hospital																															x						x

Ref	Setting	Physical						Operational Issues										Psycho-Social										Clinical Outcomes								
		SQ Ft	Maintenance	Housekeeping	Energy	Room Functionality	Room/Hospital Design	Construction costs	Transfer issues	Time spent walking	Occupancy rates	Time to do admissions	Time w/ roommate conflict	Time w/family concerns	Length of stay	Staff turnover	Resident turnover	Other 1	(Costs (General))	Resident Satisfaction & Qol	Resident Preferences & conflict	Staff satisfaction	Family satisfaction	Assistance calls	Communication quality	Self-esteem	Roommate Relationships	Concept of Home	Autonomy/Dignity	Privacy	Sleep quality	Falls	Hospitalization rate	Adverse drug reaction	Mental health	Disruptive/distressed behavior	Medical error rates	Nosocomial Infection
Stein, D. (1990). Managing pneumonia acquired in nursing homes: Special concerns. Geriatrics, 45(3), 39-42, continued on page 47.	NH																																			x
Stevenson, D. (2005). Nursing Home Consumer Complaints and Their Potential Role in Assessing Quality of Care. Medical Care, 43(2), 102-110.	NH																			x			x													
Terakawa, Y. (2004, June 2-4). The relationship between environment and behavior at the institutional setting for the elderly. Paper presented at the Environmental Design Research Association 35th Annual Conference, Albuquerque, NM.	NH																			x	x															
Tonesi, J., Holmes, D., Bloom, H., Monaco, C., Rosen, S. (1981). Factors Differentiating Hospits. Transfers from Long-term Care Facilities with High and Low Transfer Rates. The Gerontologist, 31(5), 795-806.	NH								x																							x				
Thapa, P., Brockman, K., Gideon, P., Fought R., & Ray, W. (1998). Injurious Falls in Nonambulatory Nursing Home Residents: A Comparative Study of Circumstances Incidence, and Risk Factors. JAGS, 44, 273-278.	NH								x										x												x					
Thapa, P., Gideon, G., Cost, T., Milam, A. & Ray W. (1998). Antidepressants and the Risk of Fa ls Among Nursing Home Residents. The New England Journal of Medicine, 339(13), 875-882.	NH																														x					
Vance, D., Burgio, L., Roth, D., Stevens, A., Fairchild, J. & Yurick, A. (2003). Predictors of Agitation in Nursing Home Residents. Journal of Gerontology: Psychological Sciences 58B(2), 129-137.	NH																																		x	
Yapp, L., Au, S., Ang, Y. & Ee, C. (2003). Nursing Home Falls: A Local Perspective. Ann Acad Med Singapore, 23(6), 755-800.	NH								x																						x	x				
Zeisel, J. (2000). Environmental Design Effects on Alzheimer Symptoms in Long Term Care Residences. Architecture and Design, 36(3), 27-31.	NH						x															x					x		x				x	x		
Zeisel, J., Silverstein, N., Hyce, J., Levkoff, S., Lawton, M. & Holmes, W. (2003). Environmental Correlates to Behavioral Health Outcomes in Alzheimer's Special Care Units. The Gerontologist, 43(5), 697-711.	NH						x													x									x		x					
Zimmerman, S., Gruber Baldini, A., Hebel, J., Sloane, P., Magaziner, J. (2002). Nursing Home Facility Risk Factors for Infection and Hospitalization: Importance of Registered Nurse Turnover, Administration, and Social Factors. JAGS, 50, 1987-1995.	NH																			x		x							x			x				
Morgan, D. S. N. (1998). Multiple Occupancy Versus Private Rooms on Dementia Care Units. Environment and Behavior, 30(4), 487-503.	NH									x			x							x		x	x			x			x	x						
Zeltzer, B. (2001). Roommate pairing: A nonpharmacologic therapy for treating depression in early to mid stages of Alzheimer's disease and dementia. American Journal of Alzheimer's Disease and Other Dementias, 16(2), 71-72.	NH, AL																			x					x	x	x	x								
Genworth Financial, (2005). Genworth Financial 2005 Cost of Care Survey. New York: Genworth Financial.	NH, ALF																		x																	
Cutting Edge, I. (2004). Pharmaceutical Patient Compliance and Disease Management: Cutting Edge Information.	NH, Hosp																	x																		
Cooper, J. (1999). Adverse drug reaction-related hospitalizations of nursing facility patients: a 4 year study. Southern Medical Journal, 92(5), 485-490.	NH, Hosp								x																							x				
Fune, L., Shua-Haim, J., Rassi, J. & Frank, E. (1999). Infectious Disease Among Residents of Nursing Homes. Annals of Long-Term Care, 7(11), 410-417.	NH, Hosp.								x																											x
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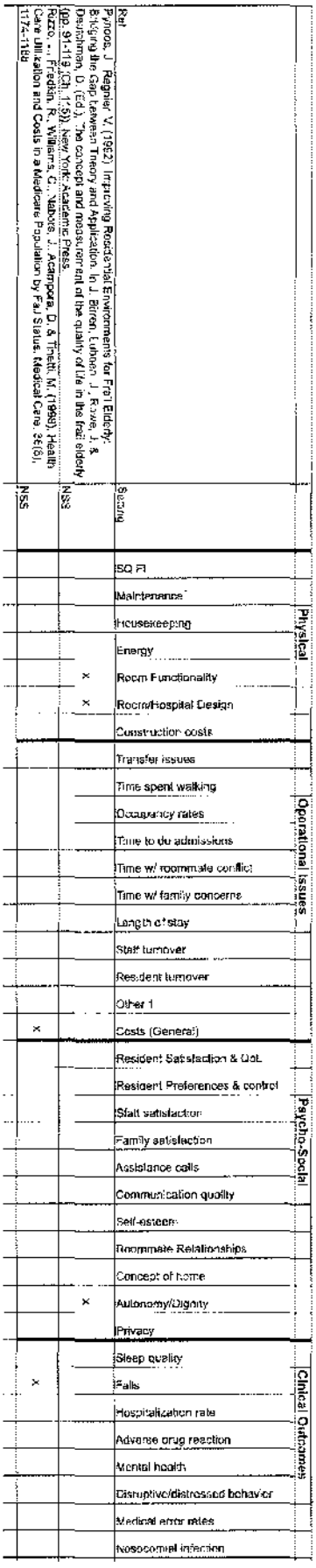
Dobbs, D. (2004). The Adjustment to a New Home. Journal of Housing for the Elderly, 18(1), 51-71.	AL																										x									
Hawes, C., Greene, A., Wood, V., Woodsong, C. (1997). Family Members' Views: What is Quality in Assisted Living Facilities Providing Care to People with Dementia? Washington DC: Alzheimer's Association.	AL																					x					x									

Ref	Setting	Physical						Operational Issues												Psycho-Social													Clinical Outcomes												
		SQ Ft	Maintenance	Housekeeping	Energy	Room Functionality	Room/Hospital Design	Construction costs	Transfer issues	Time spent walking	Occupancy rates	Time to tub admissions	Time w/ roommate conflict	Time w/ family concerns	Length of stay	Staff turnover	Resident turnover	Other 1	Costs (General)	Resident Satisfaction & QoL	Resident Preferences & contro	Staff satisfaction	Family satisfaction	Assistance calls	Communication quality	Self-esteem	Roommate Relationships	Climate of home	Autonomy/Dignity	Privacy	Sleep quality	Falls	Hospitalization rate	Adverse drug reaction	Marital health	Disruptive/distressed behavior	Medical error rates	Nosocomial Infection
Harkness, C., Bentley, D., Roghmann, K. (1990) Risk Factors for Nosocomial Pneumonia In the Elderly. The American Journal of Medicine, 89, 457-463.	Hospital																																					x
Harris, P., McBride, G., Ross, C. & Curtis L. (2002). A Place to Heal: Environmental Sources of Satisfaction Among Hospital Patients. Journal of Applied Social Psychology 32(6), 1276-1299.	Hospital						x													x	x								x									
Kaldenberg, D. (1998) The Influence of Having a Roommate on Patient Satisfaction. The Satisfaction Monitor, 3-4.	Hospital																			x	x					x	x		x									
Kannus, P., Niemi, S., Palvanen, M., Parkkari, J. (2000). Continuously increasing Number and Incidence of Fall-Induced, Fracture-Associated, Spinal Cord Injuries in Elderly Persons. Archives of Internal Medicine, 160, 2145-2149.	Hospital																														x	x						
Kobus, R. (2000). Multibed Versus Single-Bed Rooms. In Building Type Basics for Healthcare Facilities (pp. 145-157). New York: Wiley.	Hospital						x	x	x		x	x								x	x								x							x	x	
McKendrick, G. E., RTD. (1976). Investigation of cross-infection in isolation wards of different design. J Hyg Camb, 76(23), 23-31.	Hospital						x																														x	
Meyer, T., Eveloff, S., Bauer, M., Schwartz, W., Hill, N. & Millman, R. (1994). Adverse Environmental Conditions in the Respiratory and Medical ICU Settings. Chest, 105(4) 1211-1216.	Hospital																													x								
Olvany, B. (1983). Patient Transfers: Hospitals and Nursing Homes. Bull. N.Y. Acad. Med., 59(1), 153-156.	Hospital								x													x																
Parthasarathy, S. T., M. (2004). Sleep in the intensive care unit. Intensive Care Med, 30, 197-206.	Hospital																													x								
Rothschild, J., Federico FA, Gandhi TK, Kaushal R, Williams DH, Bates DW. (2002). Analysis of med cation-related malpractice claims: causes, preventability and costs. Archives of Internal Medicine, 162(21), 2414-2420.	Hospital																																x			x		
Sallstrom, C., Sandman, P., Norbur, A. (1987). Relatives' Experience of the Termina. Care of l ong term Geriatric Patients in Open-plan Rooms. Scandinavian Journal of Caring Sciences, 1, 133-140.	Hospital					x	x													x		x			x				x									
Shepley, M., Davies, K. (2003) Nursing unit configuration and its relationship to noise and nurse walking behavior: An AIDS/HIV unit case study. from: Retrieved from: http://www.aia.org/aan_a_jmf_0401_article4	Hospital						x			x																												
Stephens, C., Beehan, S. & Hillman, K. (1995). Preparation of the Critically Ill for Transfer In Metropolitan Sydney. Australian Critical Care, 8(4), 14-18.	Hospital								x																													
Topf, M. (1985) Noise-induced Stress in Hospital Patients: Coping and Non-auditory Health Outcomes. Journal of Human Stress, 11(3), 125-134.	Hospital																			x														x				
Tritea, D., Galbraith, F., Sturdavant, M. & Leckwart, J. (1970) Influence of Nursing-Unit Design on the Activities and Subjective Feelings of Nursing Personnel. Environment and Behavior 295, 303-334.	Hospital						x			x												x																
Ulrich, R., & Zimring, C. (2004). The role of the physical environment in the hospital of the 21st century: A once in a lifetime opportunity. Center for Health Design.	Hospital					x	x		x	x									x	x		x		x					x	x		x				x	x
Yamamoto, M. M., S. (1987). Basic plan and assessment of an information system designed to aid patient transfer. Med. Inform., 12(4), 284-304.	Hospital								x																													
Yinnon, A., Ilan, Y., Tadmor, B., Alteresco, G., Horshko, C. (1992). Quality of Sleep in the Medical Department. British Journal of Clinical Practice, 46(2), 88-91.	Hospital																													x								
Moore, J. (2005). Aging in Place. Contemporary Long Term Care, 20-21.	ILF/AL															x																						
Canter, D. S., P. (Ed.). (1975). Environmental Interaction: Psychological Approaches to Our Physical Surroundings. London: University Press.	NSS																												x									
Cohen, H., Robinson, E. & Mandrack, R. (2003, September 2003). Getting to the Root of Medication Errors: Survey Results. Nursing 2003, 33, 36-46.	NSS																					x														x		
Keen, J. (1980). Interiors: Architecture in the Lives of People with Dementia. International Journal of Geriatric Psychiatry, 4, 255-272.	NSS						x																				x	x	x									
Pederson, D. (1995). Model for Types of Privacy by Privacy Functions. Journal of Environmental Psychology, 19, 397-405.	NSS																												x						x			



Ref	NSS	NSS	Setting	
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			Maintenance	
			Housekeeping	Physical
			Energy	
		x	Room Functionality	
		x	Room/Hospital Design	
			Construction costs	
			Transfer issues	
			Time spent walking	
			Occupancy rates	Operational Issues
			Time to do admissions	
			Time w/ roommate conflict	
			Time w/ family concerns	
			Length of stay	
			Staff turnover	
			Resident turnover	
			Other 1	
Rizzo, ... Freedlin, R., Williams, C., Nabors, J., Acampora, D., & Tinetti, M. (1999). Health Care Utilization and Costs in a Medicare Population by Fall Status. Medical Care, 37(6), 1174-1188	x		Costs (General)	
			Resident Satisfaction & QoL	
			Resident Preferences & control	
			Staff satisfaction	Psycho-Social
			Family satisfaction	
			Assistance calls	
			Communication quality	
			Self-esteem	
			Roommate Relationships	
			Concept of home	
		x	Autonomy/Dignity	
			Privacy	
			Sleep quality	
	x		Falls	Clinical Outcomes
			Hospitalization rate	
			Adverse drug reaction	
			Mental health	
			Disruptive/distressed behavior	
			Medical error rates	
			Nosocomial infection	

Attachment #4

MARQUIS
Health Services

Ms. Nora Mann, Esq.
Director, Determination of Need Program
Department of Public Health
250 Washington Street, 6th Floor
Boston, Massachusetts 02108

Re: NEB Operator, LLC
d/b/a North End Rehabilitation & Healthcare Center
Project #

Background:

On March 3, 2017 Marquis Health Services acquired Spaulding Nursing and Therapy Center – North End. As a matter of background, Spaulding North End which is under the Partners system, has been the only post-acute and long term care option for the North End Boston Community since 1983. Spaulding states that in 1983, in response to the needs and requests of the community, the North End Community Health Center opened the North End Nursing Home (subsequently called the Spaulding Nursing and Therapy Center North End) to ensure a continuum of care, allowing for the monitoring, coordination and access to culturally competent care by the same providers through a patient's lifecycles and care needs. In partnership with the Health Center, Nursing Home patients continued to be provided with primary care, dental, podiatry, mental health, laboratory and vision services.

When Partners announced the intent to close both of their Skilled Nursing Facilities in the North End and in West Roxbury, and to open a new facility in Brighton, the North End Community petitioned Partners not to close the North End facility; and to rather work on finding a provider who would continue to operate and maintain the facility as a Skilled Nursing Facility for the North End community. Marquis Health Services, already with already a presence of nine nursing facilities in New England and known for its reputation for being a leader in the industry and at the forefront of Healthcare Reform assumed operations of the facility on November 1st, 2017.

To better understand the dynamics of this transition, it is important to understand that The North End of Boston is an authentic historical and unique urban community. A community that is very involved, and has proven over the decades to be close knit and very family oriented. The older North Enders love to reminisce about the neighborhood and its history. The prior North End Rehabilitation & Healthcare Center has been a vital community resource since 1983. When Partners declared their intention of closing this facility, and the community petitioned to continue its existence, Marquis took the initiative to undertake the continuance of this facility to this community.

Simply continuing the existence of this Nursing Facility, will require significant capital improvements given the age and deterioration of the building. In addition to these basic capital improvements, six months of intense community outreach has shown and identified that the North End Rehabilitation and Healthcare Center communities' (i.e. North end population and local Hospitals) stand to substantially benefit from renovations. Renovations will not only improve the physical appearance that will help heighten patient's moods and quality of life, but they will allow for the facility to accommodate more of the senior population with complex medical diagnoses.

MARQUIS
Health Services

We are modeling these renovations to be in accordance with the healthcare needs that have been identified in networking and speaking with the local Boston hospitals. We have spoken to numerous hospitals including, *Mass General Hospital, Brigham and Women's Hospital, Tufts Medical Center, Boston Medical Center, and Beth Israel Health System,* and the common theme that has been expressed is the additional need to provide a proper setting for higher acuity patients. To demonstrate that our project aligns with the healthcare needs of such, we have outlined below some of the major factors that are incorporated in the proposed project. Included with the anticipated renovations are;

New Rehab Gym

We will be creating a new 3,500 sq. foot rehab gym that will be available 7 days a week. This is a need that currently exists, as the current rehab gym does not provide the opportunity for the facility to avail its services to all of those in need at accommodating times. This new gym will enable the facility to accommodate all the complex rehab patients, opening more opportunities for North End residents to remain in their neighborhood. Many family members live with-in walking distance of the facility and want their loved ones to only remain in the North End.

Additional Private Rooms

We will be increasing the amount of private rooms. This will allow the Facility to accommodate transplant patients, patients with infectious precautions, end of life patients, complex cardiac and pulmonary patients (to name a few). As expressed to us over and over by the local Boston Hospitals, these are the patients that there exists a need of need placement for. This new addition will enable the facility to provide the appropriate atmosphere required for this patient type.

The additional amenities and private room layout of this will provide exceptional patient comfort in a homelike setting allowing the opportunity for optimal patient care, satisfaction, minimize infection, and quality outcome. The renovations will include adding common areas for family members and patients to utilize. Many of our patients have very involved loving families that spend their days with their loved ones at the facility. Renovating common areas for spending time playing games, watching television, sharing meals etc. will lend itself to further creating a homelike setting, thereby increasing the quality of life for all the residents. For our short-term rehab patients, this setting will provide the opportunity for a quicker healing and rehab process and shorter length of stay, allowing them to return home to their families sooner. Clinical studies have shown that patients tend to rehab and heal faster under these home like settings.

Piped in Oxygen

As mentioned, in speaking with the local hospitals in the area, we have identified the need to provide a higher acuity setting to service such patient types. Accordingly, part of the renovations will include installing Piped in Oxygen. The addition of piped in oxygen will allow for specialized cardiac and pulmonary care that has proved to be a much-needed program for the community members. Accommodating these patients will only be possible with these renovations.

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Health Services

Specialty Programs

As mentioned, in meetings with the local hospitals in the area, we have identified the need to provide a higher acuity setting to service such patient types. As such, in part with the renovations we will be bringing in Specialty Physicians, Clinicians, and a Subacute Medical Director, with the mission of promoting the rehabilitation of our residents back to their prior level of function. Specialization is expected to include Specialty Programs such as a Cardiology program, a Pulmonary/Stroke Program, as well as the possibility of a Specialty Dementia Program in the future. This along with the other settings added, will also be a crucial factor in reducing the overall rehospitalizations and allowing for a quicker healing and rehab process and shorter length of stay, allowing them to return home to their families sooner.

We have met with the local State representatives, as well as Mayor Walsh, who are both very excited about this new presence and initiative. Aside from encouraging the project, they have offered their assistance with anything that is needed. We have met with the North End Association as well as performing other community outreach initiatives that have been most welcome.

Marquis Health Services is working with Partners Heath Care for the new North End Rehabilitation and Healthcare Center to be a preferred provider for their SNF Collaborative. While in the past, this facility has *primarily* only serviced the Partners Healthcare System, now under Marquis, in addition to Partners, we expect to expand the referral base from other hospital systems, to include Tufts Medical Center, Boston medical Center, Beth Israel Health System, Mass General Hospital, Brigham and Women's Hospital as well.

On a final note, aside from the overall general support we have received from the local Hospitals, kindly find the attached letters that we have received from area Hospital Physicians, specifically addressing the needs of these renovations, along with their words of support. Included are letters from: Dr. Terrence O'Malley, Physician at Massachusetts General Hospital, Dr. Bruce Bonnell, physician at Spaulding Hospital for Continuing Medical care, and Dr. John Foster, Physician at Massachusetts's General Hospital.

It is with this in mind that we embark on this new and exciting initiative and we present to you our application for the Determination of Need.

Sincerely yours,

Norman Rokeach, LNHA
Chief Executive Officer
Marquis Health Services

Dr. Yogesh Viroja, MD, MBA
Corporate Medical Director
Marquis Health Services

SPAULDING HOSPITAL
FOR CONTINUING MEDICAL CARE
CAMBRIDGE

1575 Cambridge Street Cambridge MA 02138 617.876.4344 www.spauldingrehab.org

January 22, 2018

To Whom it may concern:

I am pleased to express my strong support for Marquis Health Service's application for a Determination of Need to renovate their Skilled Nursing Facility, The North End Rehabilitation and Healthcare Center. This is an important project for Greater Boston, and will ensure the Commonwealth that the needs of patients requiring skilled nursing care and rehabilitation services are met.

Patients place a high value on physical plant to support the rehabilitation and medical needs of their recovery. The North End Rehabilitation and Healthcare Center is an aging facility badly in need of such renovation. It is essential that North End Rehabilitation & Healthcare Center receive support for these renovations so that it may continue offering its broad range of high-quality and complex medical and rehabilitation services to skilled nursing patients.

As the subacute medical director for this facility, Marquis Health Services' application for a Determination of Need has my full and strong support. Thank you in advance for your consideration.

Feel free to contact me directly with any questions you may have.

Bruce Bonnell MD MPH MBA
Subacute Medical Director
The North End Rehabilitation and Healthcare Center
Geriatrician and Hospitalist
Spaulding Hospital for Continuing Medical Care
1575 Cambridge Street
Cambridge MA 02138

MASSACHUSETTS
GENERAL HOSPITAL

North End Waterfront Health
332 Hanover Street
Boston, MA 02113
Phone: 617-643-8000
Fax: 617-643-8122

John A. Foster, MD MPH
Internal Medicine
Chief Medical Officer

January 22, 2018

To Whom it may concern:

I would like to express my strong support for Marquis Health Service's application for a Determination of Need to renovate their aging Skilled Nursing Facility, The North End Rehabilitation and Healthcare Center.

As past Medical Director of the facility from 1988 – 2008, and continuing as an active staff physician there since then; I can attest to the fact that the physical plant is in desperate need of renovation. Since its founding, the facility has been a critical part of the community of the North End, providing a safe and attractive environment for skilled rehabilitation services and long term care for local elders, the recently ill, and the disabled – a place where families could take an active role in the care of their loved ones. Yet, the march of time has aged the facility such that its ability to provide the type of environment now required to adequately serve the needs of its patients is threatened. The families of the North End and surrounding communities need a renovated physical plant to ensure the best environment exists for the care and emotional support of their loved ones – both for effective, modern, state-of-the-art rehabilitative recovery services and dignified long term care. The role this facility plays in the fabric of the community and local health care environment (including the needs of nearby hospitals for available skilled and long term beds) cannot be overstated.

I recognize the high value patients and families place on the physical plant to support the rehabilitation and medical needs of their ill loved ones. A renovated facility for the North End and surrounding communities is essential to assuring that The North End Rehabilitation & Healthcare Center can continue offering its broad range of high-quality and complex medical and rehabilitation services to skilled nursing patients.

Marquis Health Services' application for a Determination of Need has my full and strong support. Thank you in advance for your consideration.

Sincerely,

John A. Foster, MD, MPH

Terrence A. O'Malley, M.D.

Physician, Massachusetts General Hospital
Partners HealthCare System
tomalley@mgh.harvard.edu

70 Fulton Street
Boston, MA 02109

617-843-5001 clinical
617-726-1818 page operator
617-284-6774 fax

January 22, 2018

To Whom It May Concern:

I am The Medical Director Marquis Health Services' skilled nursing facility in the North End. I wholeheartedly support their application for a Determination of Need to renovate this facility which has not been upgraded in decades. An improved facility is essential for the continued care of patients from across the city but also, in particular, residence of the North End who need skilled nursing care and rehabilitation services.

These renovations are essential for assuring that the North End Rehabilitation and Healthcare Center can continue to provide a broad range of complex medical and rehabilitation services to skilled nursing patients.

Marquis Health Services application for a Determination of Need has my full and strong support. Thank you in advance for your consideration of this matter.
Sincerely,

Terrence A. O'Malley, MD

MassHealth

Commonwealth of Massachusetts
Executive Office of Health and Human Services
Office of Medicaid
www.mass.gov/masshealth

MassHealth
All-Provider Bulletin 272
November 2017

TO: All Providers Participating in MassHealth
FROM: Daniel Tsai, Assistant Secretary for MassHealth
RE: Overview of 2018 New Health Plan Options

MassHealth Payment and Care Delivery Innovations (PCDI)

Effective **March 1, 2018**, MassHealth will begin offering an expanded selection of health plan options to managed care eligible members. These new options are Accountable Care Organizations (ACOs), and a key part of MassHealth PCDI. MassHealth will also continue to offer Managed Care Organizations (MCOs) and the Primary Care Clinician (PCC) Plan as managed care options.

What's New

- MassHealth is introducing three ACO models: (1.) Accountable Care Partnership Plans; (2.) Primary Care ACOs; and (3.) MCO-Administered ACOs.
- Accountable Care Partnership Plans and Primary Care ACOs will be available as enrollment options to managed care members. MCO-Administered ACOs are part of the MCO delivery system and will not be presented as an enrollment option because members will be attributed through their MCO.
- Most MassHealth managed care members will be assigned to a health plan so that they can continue to receive care from their primary care provider (PCP). All members will have the opportunity to choose a different health plan.
- The Eligibility Verification System (EVS) on the Provider Online Service Center (POSC) will be updated with messages that indicate which type of health plan a member is enrolled in and whom to contact for billing information.
- MassHealth will require ACOs to enhance primary care efforts and will provide additional supports to facilitate those changes.
- Primary care practices will be exclusive to their ACO—they will only be able to see managed care eligible members who are affiliated with their ACO.

What's Staying the Same

- MassHealth will seek to keep members with their PCPs throughout enrollment changes.
- MassHealth will continue to offer the PCC Plan and MCOs as health plan options.
- Members will have Plan Selection and Fixed Enrollment periods.
- These changes do not apply to non-managed care eligible members.

Affected Members

MassHealth managed care eligible members are:

- Younger than age 65, without any third-party insurance coverage (including Medicare)
- Living in the community (not living permanently in a nursing facility)
- Covered by MassHealth: Standard, CommonHealth, CarePlus, or Family Assistance

PCDI does not affect members who receive MassHealth coverage through:

- Fee-for-service (including those over age 65 or with third-party coverage)
- One Care plans
- Senior Care Options (SCO) plans
- Program of All-inclusive Care for the Elderly (PACE) Organizations

Overview of ACO Models

ACOs are provider-led organizations that coordinate care, have an enhanced role for primary care, and are accountable for the quality and total cost of care.

Reimbursement arrangements with ACOs will provide incentives to improve care coordination and achieve performance standards across multiple measures of quality, including prevention and wellness, chronic disease management, and member experience. This program requires that participating providers engage with their ACOs and take appropriate ownership of meeting the ACO's goals (cost, quality, and member experience performance).

We have contracted with 17 ACOs across the three models described below, and will allow new provider organizations to contract with our existing ACOs in later years of the program, subject to MassHealth review. Providers who are not already affiliated with an ACO but are interested in learning more should contact ACOs in their area to understand available options.

1. Accountable Care Partnership Plans

An Accountable Care Partnership Plan is a network of PCPs who have exclusively partnered with an MCO to use their provider network to provide integrated and coordinated care for members. Accountable Care Partnership Plans are paid a prospective capitation rate for all attributed members. Accountable Care Plan Partnerships are responsible for all contractually covered services and take on full insurance risk. The plan is accountable for providing high-value, cross-continuum care across a range of measures. Accountable Care Partnership Plans pay provider claims for all plan-covered services. Accountable Care Partnership Plans may earn savings if they meet certain quality thresholds.

2. Primary Care ACOs

A Primary Care ACO is a network of PCPs who contract directly with MassHealth, using MassHealth's provider network, including the Massachusetts Behavioral Health Partnership (MBHP), to provide integrated and coordinated care for members. A Primary Care ACO does not receive capitation payments for attributed members. MassHealth pays providers on a fee for service basis directly. Behavioral Health providers must enroll with MBHP and are paid in accordance with their MBHP provider agreements. The ACO is accountable for providing high-value, cross-continuum care across a range of measures. The ACO may earn savings if it meets certain quality thresholds.

Primary Care ACOs will use the MassHealth network for specialty services and have the option of defining a Referral Circle. If a member's specialist is part of the Referral Circle identified by the member's Primary Care ACO, the member will not need a referral to receive services from that specialist.

3. MCO-Administered ACOs

An MCO-Administered ACO is a network of PCPs who may contract with one or multiple MCOs and use the MCO provider networks to provide integrated and coordinated care for members. MCO-Administered ACOs are not presented as an enrollment option because members will be enrolled with the MCO and attributed to the contracted ACO through the MCO they are enrolled with. MCOs pay claims to providers in their networks. The ACO is accountable for providing high-value, cross-continuum care across a range of measures. The ACO may earn savings if it meets certain quality thresholds.

Continuity of Care Requirements

MassHealth, ACOs, and MCOs have procedures to minimize disruptions to provider relationships and authorized services. Members should contact the plan directly for any questions or concerns related to existing provider relationships, scheduled appointments, and/or authorized services. MassHealth will work closely with plans to share information and facilitate transitions for particularly vulnerable members, including sharing and honoring prior authorizations.

Members are encouraged to work with their healthcare providers to obtain authorizations for healthcare services they are currently receiving at the time of transition into a new Plan. PCPs and their care team are responsible for working with the member as well as the plan's network of providers to support coordination and continuity of care.

Primary Care Participation and Exclusivity

- ACO-participating primary care practices are set for the first year of the ACO program (March 2018 – December 2018).
- ACO-participating PCPs cannot participate as primary care providers in MCOs or the PCC Plan or any other ACO.
- ACO-participating PCPs exclusively provide primary care to MassHealth managed care members enrolled in their ACO.
- This exclusivity is enforced at the **practice or entity level** rather than at the individual doctor level.

This fall, MassHealth will **"special assign"** to each ACO the members who have primary care assignments to that ACO's PCPs effective March 1, 2018. Members may choose to change plans following special assignment.

Exclusivity does not apply to other programs, such as Senior Care Options (SCO), One Care, the Program of All-inclusive Care for the Elderly (PACE) or MassHealth fee-for-service. PCPs can continue to provide services to members in the above-mentioned plans and fee-for-service members regardless of their contracts with ACOs.

PCPs who are also specialists can continue to provide specialty services across managed care plans.

Specialist, Hospital, and Other Provider Participation

Specialists, hospitals, and other providers may contract with multiple health plans at the same time and can provide services to members in any of the health plans with whom they are contracted. The managed care assignment of the member to an MCO, ACO, or PCC Plan is crucial for specialists to understand. This will ensure that specialists provide services to members of plans that they are contracted with.

A specialist may see MassHealth members enrolled with the PCC Plan or a Primary Care ACO if the specialist is a MassHealth participating provider. For members enrolled in an Accountable Care Partnership Plan or MCO, specialists will need to contract with each of these health plans to provide services to members enrolled in these plans.

Long-term services and supports (LTSS) that are currently paid for by MassHealth on a fee-for-service basis, and are not covered by MCOs will continue to be paid by MassHealth. This includes Personal Care Attendant, Adult Foster Care, Group Adult Foster Care, Adult Day Health, Day Habilitation, Continuous Skilled Nursing, and long-term (over 100 days) Nursing Facility, Chronic Disease, and Rehabilitation Hospital services. Providers do not need to contract with the new health plans for these services.

The contracting and payment process for dental services and non-emergency medical transportation services is also not changing as part of PCDI.

Member Assignment and Noticing

Effective March 1, 2018, current managed care members will be assigned to an ACO, MCO, or the PCC Plan based on each member's PCP relationship in mid-October 2017. This process, known as special assignment, is designed to keep members with their PCP whenever possible. If a member prefers to maintain relationships with providers other than their PCP, the member should contact those providers to find out which plans those providers are contracted with, and then contact MassHealth for assistance enrolling in a plan that is available in their service area and has their preferred providers.

- If a member's PCP is moving to a new health plan, the member will be special assigned to that health plan to prioritize and maintain their current PCP relationship.
- If a member is enrolled in an MCO that will not be available after March 1, 2018, and their PCP is not joining an ACO, the member will need to select a new health plan before March 1, 2018. If the member does not select a new plan, MassHealth will assign a new plan.
- If a member's PCP is not changing health plans, the member can stay enrolled in their current health plan, or explore new health plan options during their Plan Selection Period.

Through November and December 2017, managed care eligible members will receive a notice and Enrollment Guide from MassHealth explaining their health plan enrollment options effective March 1, 2018. These notices will be unique to each member, and will explain that they'll have the option of selecting a new PCP and/or health plan, and what will happen if they decline to make a choice.

Important Member-Choice Dates

The member assignment and noticing dates below are for managed care members with enrollments effective March 1, 2018.

- **Member Noticing Begins:** November 13, 2017
- **Member Enrollments Effective:** March 1, 2018
- **Plan Selection Period**: March 1, 2018–May 31, 2018
- **Fixed Enrollment Period**: June 1, 2018–February 28, 2019

For new members, after March 1, 2018, the Plan Selection Period is the first 90 days after enrollment in an ACO/MCO, and the Fixed Enrollment Period is the remaining 275 days of the year. All members have a new plan selection period every year.

Compare Online

A new online tool is be available at www.MassHealthChoices.com that allows managed care eligible members to search a complete list of plan options and PCPs, and use the ***Learn***, ***Compare***, and ***Enroll*** tabs to

- **Learn** about important MassHealth information
- **Compare** health plan options available in their service area and PCPs that participate in their available health plan options; and
- **Enroll** in the plan of their choice that best meets their needs.

MassHealth will also offer members Enrollment Events for in-person one-on-one assistance with plan enrollment. Events and additional information can be found at www.MassHealthChoices.com

Member Options and Changes

Managed care members will have Plan Selection and Fixed Enrollment periods. Members enrolled in an MCO or ACO health plan will have a 90-day Plan Selection Period every year, based on initial enrollment date. MassHealth will notify members annually about their Plan Selection Period. During that period, members can change health plans for any reason.

Members who are in an ACO or MCO when their Plan Selection Period has ended will be in their Fixed Enrollment Period. During their Fixed Enrollment Period, they will not be able to change their health plan until the next annual Plan Selection Period, with limited exceptions.

Members who are enrolled in an ACO or an MCO effective March 1, 2018 will be in their Plan Selection Period until May 31, 2018. These members will be in their Fixed Enrollment Period from June 1, 2018 – February 28, 2019.

Members enrolled in the PCC Plan can change to an ACO or an MCO at any time.

Members can switch plans by:

- **Enrolling online** at www.MassHealthChoices.com
- Contacting the MassHealth Customer Service Center at 1-800-841-2900 (TTY: 1-800-497-4648)
- Completing and mailing the enrollment form

Referrals

Referrals for certain services are required for the PCC Plan and Primary Care ACOs. The requirements for referrals for all other plans are subject to the requirements of the health plan in which the member is enrolled.

Referral Circles

Primary Care ACOs will use the MassHealth network for specialty services and have the option of defining a Referral Circle. If a member's hospital or specialist is part of the Referral Circle of the member's Primary Care ACO, the member will not need a referral to receive services from that hospital or specialist. To participate in a referral circle for a Primary Care ACO, the provider must be enrolled as a MassHealth billing provider and identified to MassHealth by the Primary Care ACO.

Accountable Care Partnership Plans and MCOs may have preferred networks within their overall networks that have modified authorization requirements. For more information on these potential arrangements, talk to the health plans you have contracted with.

Community Partners (CPs)

Effective June 1, 2018, Community Partners will work collaboratively with ACOs and MCOs to provide care coordination to certain members identified by ACOs, MCOs or MassHealth. Behavioral Health Community Partners will provide care management and care coordination to members with significant behavioral health needs. LTSS Community Partners will provide LTSS care coordination and navigation to members with complex LTSS needs. Providers will receive communication from their plans and MassHealth about the Community Partners program as the program launch date approaches.

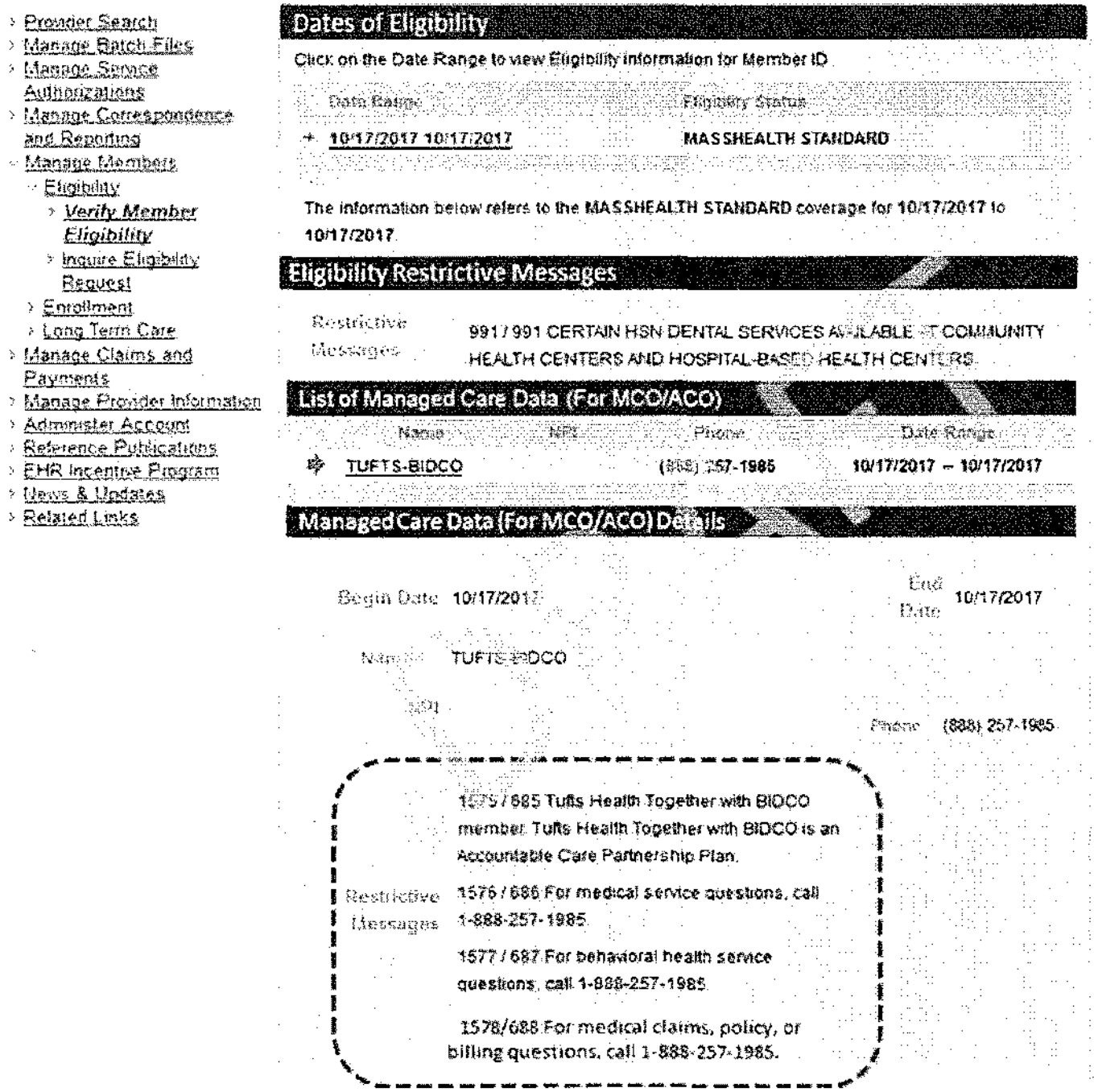
MassHealth Eligibility Verification System (EVS) Enhancements

Providers can continue to check member enrollment and eligibility using the Eligibility Verification System (EVS) on the Provider Online Service Center (POSC). As PCDI is implemented, MassHealth will enhance the EVS Restrictive Messages so providers know which type of health plan, including ACOs, a member is enrolled in, and who to contact for help with inquiries regarding billing and service authorization for medical and behavioral health claims, including contact information for BH contractors.

There are two types of Restrictive Messages that will appear on EVS: Eligibility Restrictive Messages, and Managed Care Data Restrictive Messages. The Managed Care Restrictive Messages are currently being enhanced for members who will be enrolled in an ACO plan effective March 1, 2018.

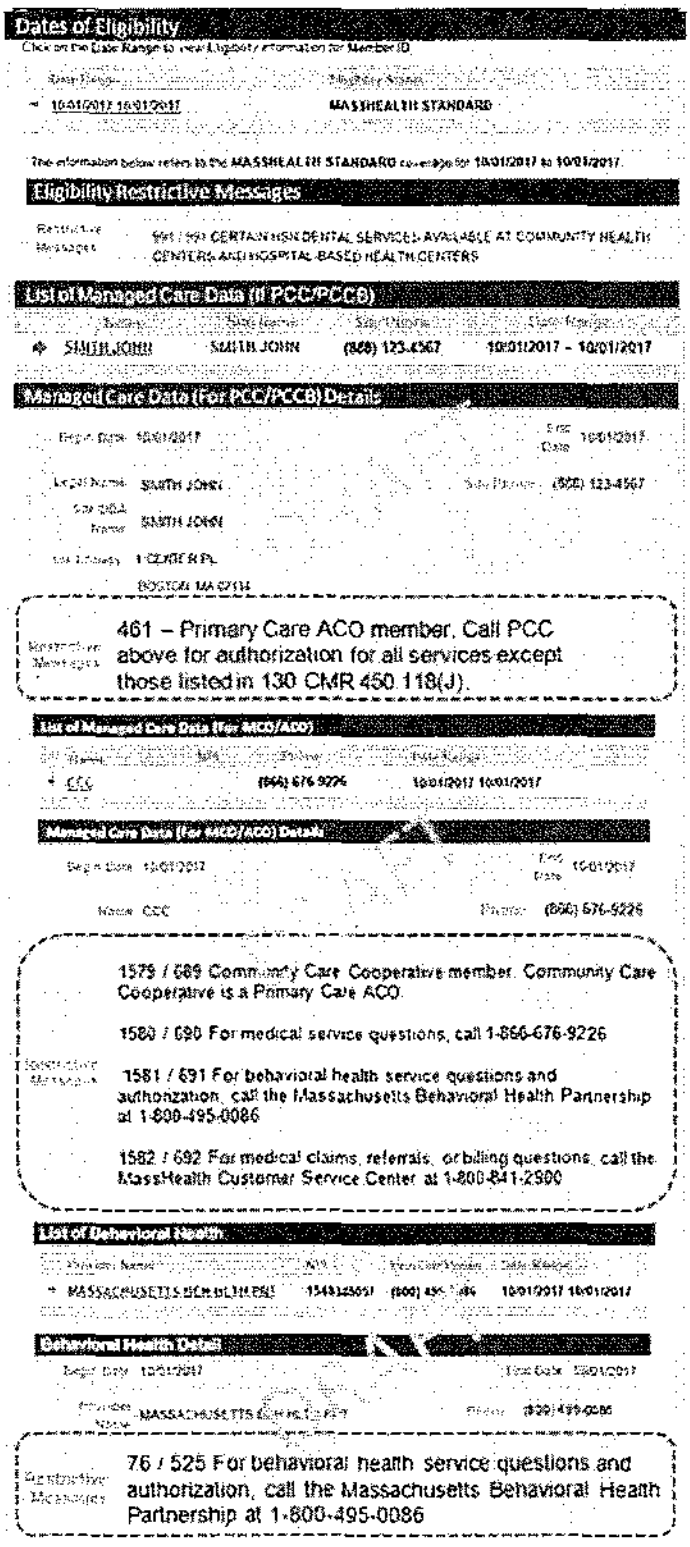
Screenshot Examples of New EVS Restrictive Messaging Effective March 1, 2018

Example 1. Accountable Care Partnership Plan
Plan Name: Tufts Health Together with BIDCO



Screenshot Examples of New EVS Restrictive Messaging – Effective March 1, 2018

Example 2. Primary Care ACO Plan
Plan Name: Community Care Cooperative (C3)



Screenshot Examples of New EVS Restrictive Messaging – Effective March 1, 2018

Example 3. MCO Plan
Plan Name: Boston Medical Center Health Plan - MassHealth Standard

- Provider Search
- Manage Batch Files
- Manage Service Authorizations
- Manage Correspondence and Reporting
- Manage Members
  - Eligibility
    - *Verify Member Eligibility*
    - Inquire Eligibility Request
  - Enrollment
  - Long Term Care
- Manage Claims and Payments
- Manage Provider Information
- Administer Account
- Reference Publications
- EHR Incentive Program
- News & Updates
- Related Links

Dates of Eligibility

Click on the Date Range to view Eligibility information for Member ID

Date Range	Eligibility Status
10/31/2017 10/31/2017	MASSHEALTH STANDARD

The information below refers to the **MASSHEALTH STANDARD** coverage for **10/31/2017** to **10/31/2017**.

Eligibility Restrictive Messages

Restrictive Messages: 991 / 991 CERTAIN HSN DENTAL SERVICES AVAILABLE AT COMMUNITY HEALTH CENTERS AND HOSPITAL-BASED HEALTH CENTERS.

List of Managed Care Data (For MCO/ACO)

Name	NPI	Phone	Date Range
BOSTON MED CTR HEALTH PLAN		(888) 566-0008	10/31/2017 10/31/2017

Managed Care Data (for MCO) Details

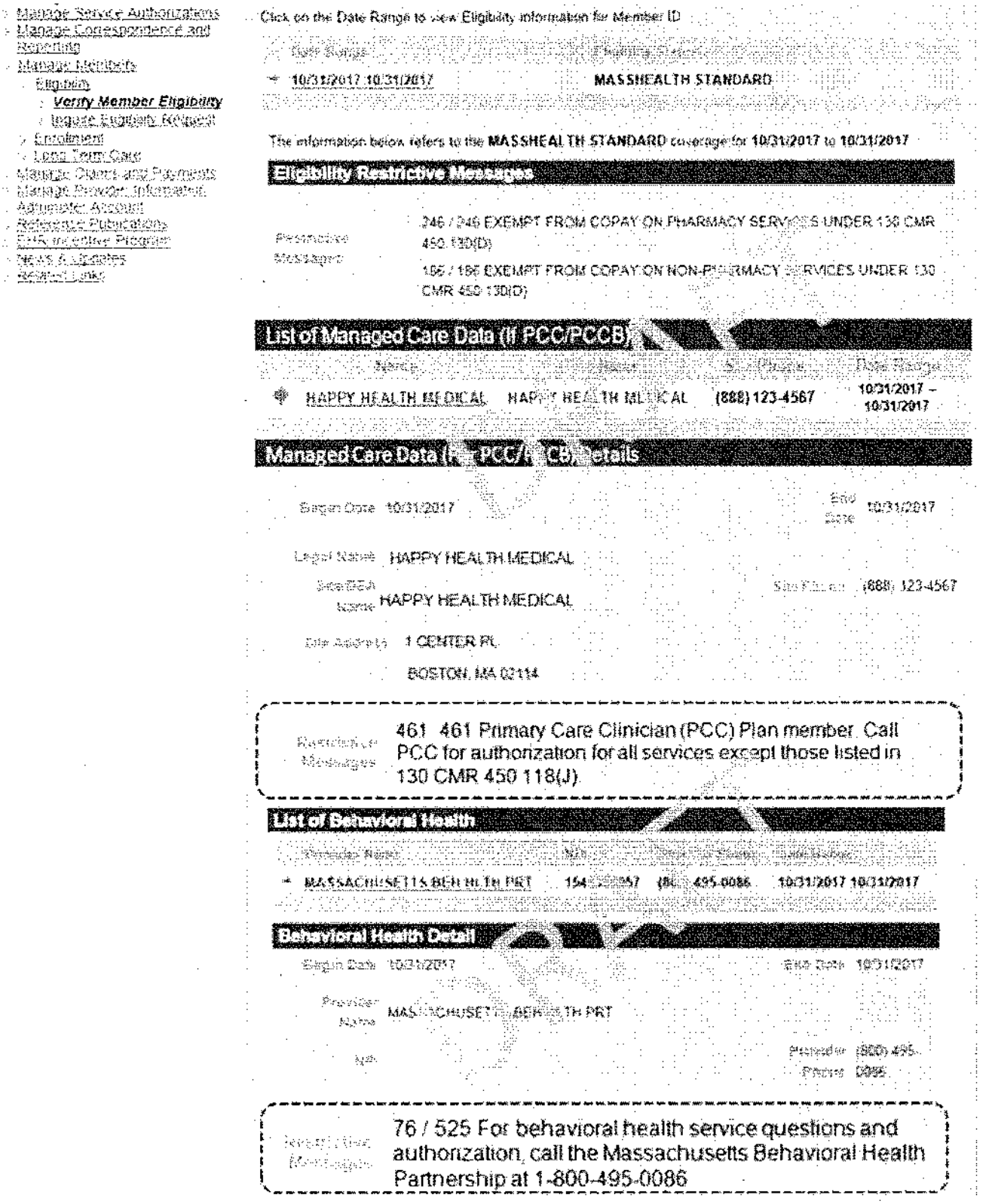
Begin Date 10/31/2017 End Date 10/31/2017

Name BOSTON MED CTR HEALTH PLAN Phone (888) 566-0008

Restrictive Messages: 747 / 021 BMC HealthNet Member. For medical services call 1-888-566-0008. For behavioral health services call 1-866-444-5155

Screenshot Examples of New EVS Restrictive Messaging – Effective March 1, 2018

Example 4. Primary Care Clinician (PCC) Plan and Behavioral Health



PCDI Provider Education and Communication

MassHealth will conduct three phases of education, training, and communication for the provider community throughout PCDI implementation. Tailored content will be offered to align with each phase.

- **Phase 1:** Awareness (October 31 – December 21, 2017)
- **Phase 2:** Operations (January 4 – March 30, 2018)
- **Phase 3:** Community Partners (April 1 – May 31, 2018)

PCDI Phase I: Awareness – 2017 Webinar Series	
This is the first in a series of webinars related to PCDI. The objectives of Phase 1 webinar sessions are to provide all attendees with an understanding of the MassHealth PCDI initiative and its impact on providers and members.	
Topics	**Description**
Overview of MassHealth PCDI	Overview of the MassHealth PCDI delivery system and new payment models
Key Terms and Concepts	Review glossary of PCDI key terms, acronyms, and concepts
Member Assignment and Noticing	Inform providers of special assignment and auto-assignment member noticing
MassHealth Choice Tool	Inform providers of the new online MassHealth Choices tool to search for providers and compare plans
Eligibility and Claim Submission	New enhancements made to the Eligibility Verification System (EVS) to assist providers with inquiries regarding eligibility, billing and service authorization for medical and behavioral health claims
Provider Resources	Notify providers of available resources such as the Fact Sheets for PCPs, specialists, hospitals, and Behavioral Health providers, web took kits, and FAQs

PCDI Phase I: Awareness – 2017 Webinar Schedule			
November 2017		**December 2017**	
Date	**Time**	**Date**	**Time**
November 28,2017	1:00 p.m.	December 5, 2017	1:00 p.m.
		December 7, 2017	10:00 a.m.
		December 12, 2017	1:00 p.m.
		December 14, 2017	10:00 a.m.
		December 19, 2017	1:00 p.m.
		December 21, 2017	10:00 a.m.

To attend a webinar session, please visit the **MassHealth Learning Management System (LMS)** at www.masshealthtraining.com and create a profile. Once you are registered, select the preferred course date and time available.

PCDI Provider Education and Communication *(cont.)*

Schedule of Upcoming PCDI Provider Events			
January 2018			
Location	**Date**	**Time**	**Maximum Occupancy**
Bristol Community College 777 Elsbree Street Fall River, MA 02720	January 10, 2018	10:00 a.m. 7:00 p.m.	150
Holiday Inn 30 Washington Street Somerville, MA 02143	January 19, 2018	10:00 a.m. 7:00 p.m.	70
Lawrence Public Library 51 Lawrence Street Lawrence, MA 01841	January 25, 2018	10:00 a.m.- 7:00 p.m.	200
UMass Medical School Amphitheater 333 South Street Shrewsbury, MA 01545	January 31, 2018	10:00 a.m. –7:00 p.m.	100
March 2018			
Location	**Date**	**Time**	**Maximum Occupancy**
Holiday Inn 30 Washington Street Somerville, MA 02143	March 5, 2018	10:00 a.m. 7:00 p.m.	70
Castle of Knights 1599 Memorial Drive Chicopee, MA 01020	March 21, 2018	10:00 a.m.- 7:00 p.m.	300
Berkshire Crowne Plaza 1 West Street Pittsfield, MA 01201	March 28, 2018	10:00 a.m. –7:00 p.m.	100

To attend one of our events, please visit the **MassHealth Learning Management System (LMS)** at www.masshealthtraining.com and create a profile. Once you are registered, select the preferred event date and time available under the Community Based Training Events tab.

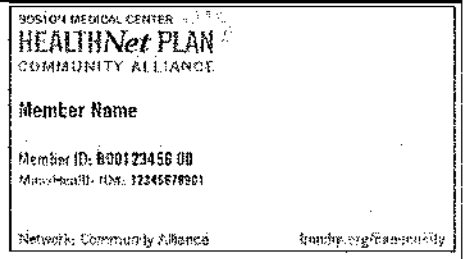
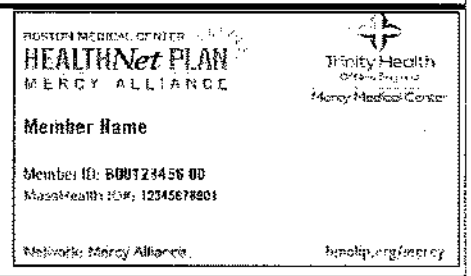
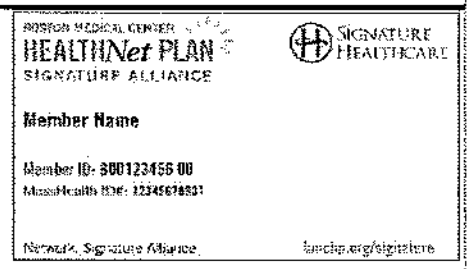
Additional Resources for Providers

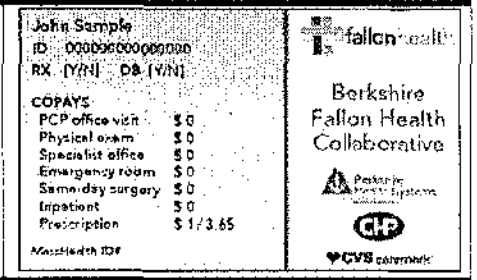
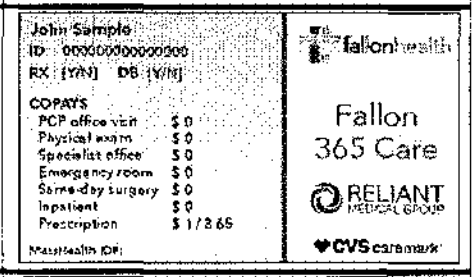
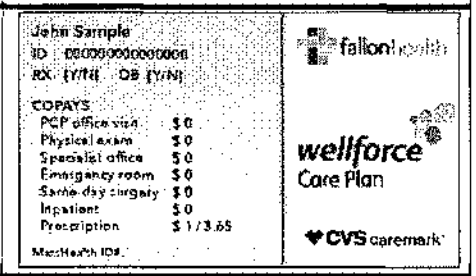
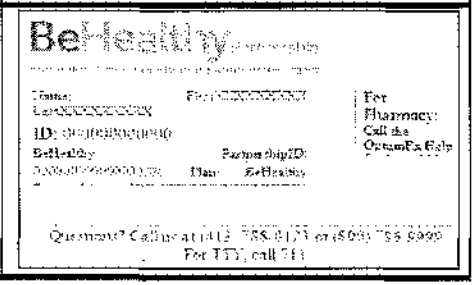
For more information about these changes, please visit

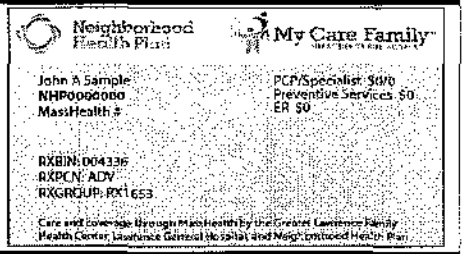
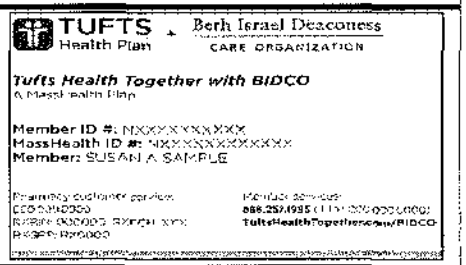
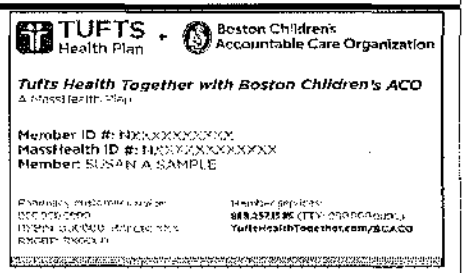
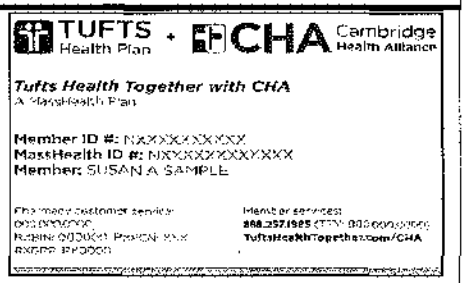
- **www.mass.gov/masshealth-for-providers**
- **www.masshealthtraining.com**

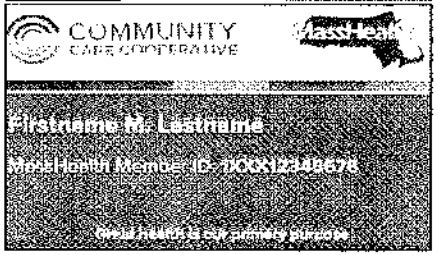
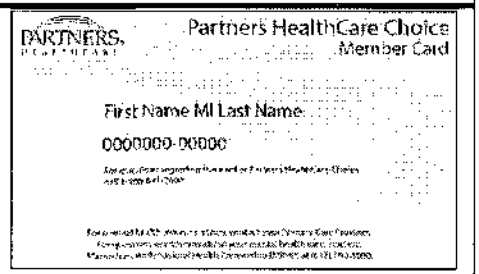
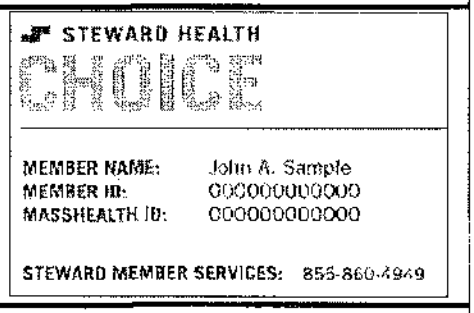
MassHealth Customer Service Center

If you have any questions about the information in this bulletin, please email your inquiry to providersupport@mahealth.net or call 1-800-841-2900 (TTY: 1-800-497-4648).

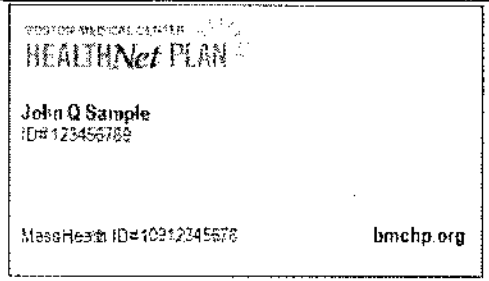
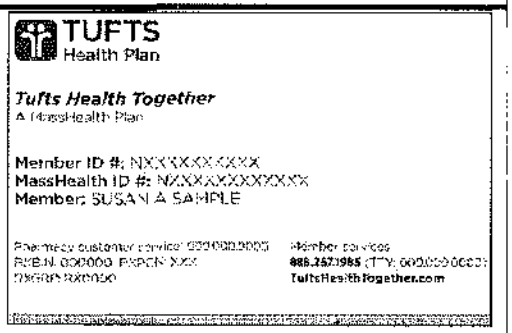
Accountable Care Partnership Plans	Customer Service	Behavioral Health Services	Member Card Image
BMC HealthNet Plan Community Alliance Boston Accountable Care Organization *in partnership* with BMC HealthNet Plan www.bmchp.org/community BOSTON MEDICAL CENTER HEALTHNet PLAN	1-888-566-0010	**Beacon Health Strategies** 1-888-217-3501	
BMC HealthNet Plan Mercy Alliance Mercy Medical Center *in partnership* with BMC HealthNet Plan www.bmchp.org/mercy BOSTON MEDICAL CENTER HEALTHNet PLAN	1-888-566-0010	**Beacon Health Strategies** 1-888-217-3501	
BMC HealthNet Plan Signature Alliance Signature Healthcare *in partnership* with BMC HealthNet Plan www.bmchp.org/signature BOSTON MEDICAL CENTER HEALTHNet PLAN	1-888-566-0010	**Beacon Health Strategies** 1-888-217-3501	
BMC HealthNet Plan Southcoast Alliance Southcoast Health *in partnership* with BMC HealthNet Plan www.bmchp.org/southcoast BOSTON MEDICAL CENTER HEALTHNet PLAN	1-888-566-0010	**Beacon Health Strategies** 1-888-217-3501	

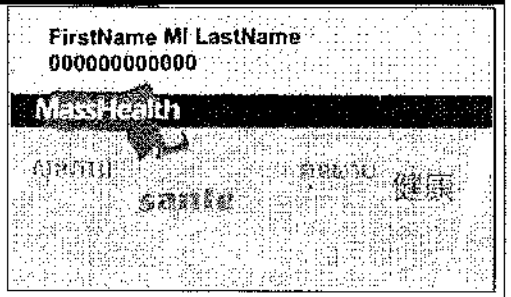
Accountable Care Partnership Plans	Customer Service	Behavioral Health Services	Member Card Image
Berkshire Fallon Health Collaborative Health Collaborative of the Berkshires *in partnership* with Fallon Health www.fallonhealth.org/Berkshires fallonhealth	1-855-203-4660	**Beacon Health Strategies** 1-888-877-7184	
Fallon 365 Care Reliant Medical Group *in partnership* with Fallon Health www.fallonhealth.org/365care fallonhealth	1-855-508-3390	**Beacon Health Options** 1-888-877-7182	
Wellforce Care Plan Wellforce Care Plan *in partnership* with Fallon Health www.fallonhealth.org/wellforce fallonhealth	1-855-508-4715	**Beacon Health Options** 1-888-877-7183	
Be Healthy Partnership Baystate Health Care Alliance *in partnership* with Health New England www.behealthypartnership.org Health New England *Where you matter.*	1-800-786-9999	**Massachusetts Behavioral Health Partnership (MBHP)** www.masspartnership.com 1-800-495-0086	

Accountable Care Partnership Plans	Customer Service	Behavioral Health Services	Member Card Image
My Care Family Merrimack Valley ACO *in partnership* with Neighborhood Health Plan (NHP) www.mycarefamily.org Neighborhood Health Plan	1-800-462-5449	**Beacon Health Options** 1-800-414-2820	
Tufts Health Together with Atrius Health Atrius Health *in partnership* with Tufts Health Plan (THP) www.TuftsHealthTogether.com/atriushealth TUFTS Health Plan	1-888-257-1985	**Tufts Health Together with Atrius Health** 1-888-257-1985	
Tufts Health Together with BIDCO Beth Israel Deaconess Care Organization (BIDCO) *in partnership* with Tufts Health Plan (THP) www.TuftsHealthTogether.com/BIDCO TUFTS Health Plan	1-888-257-1985	**Tufts Health Together with BIDCO** 1-888-257-1985	
Tufts Health Together with Boston Children's ACO Boston Children's ACO *in partnership* with Tufts Health Plan (THP) www.TuftsHealthTogether.com/BCACO TUFTS Health Plan	1-888-257-1985	**Tufts Health Together with Boston Children's ACO** 1-888-257-1985	
Tufts Health Together with CHA Cambridge Health Alliance (CHA) *in partnership* with Tufts Health Plan (THP) www.TuftsHealthTogether.com/CHA TUFTS Health Plan	1-888-257-1985	**Tufts Health Together with CHA** 1-888-257-1985	

PRIMARY CARE ACO PLANS*	CUSTOMER SERVICE	BEHAVIORAL HEALTH SERVICES	MEMBER CARD IMAGE
Community Care Cooperative (C3)* C3 members get primary care at a community health center and have access to the most MassHealth specialists and hospitals. www.c3aco.org COMMUNITY CARE COOPERATIVE	1-866-676-9226	**Massachusetts Behavioral Health Partnership (MBHP)** www.masspartnership.com 1-800-495-0086	
Partners HealthCare Choice* http://www.partners.org/for-patients/ACO/Partners-HealthCare-Choice-Medicaid.aspx PARTNERS HEALTHCARE | FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL AND MASSACHUSETTS GENERAL HOSPITAL	1-800-231-2722	**Massachusetts Behavioral Health Partnership (MBHP)** www.masspartnership.com 1-800-495-0086	
Steward Health Choice* www.stewardhealthchoice.org STEWARD HEALTH CHOICE	1-855-860-4949	**Massachusetts Behavioral Health Partnership (MBHP)** www.masspartnership.com 1-800-495-0086	

***NOTE:** To enroll in a Primary Care ACO, members must also select a PCP in that ACO's network. PCPs may not be available in all service areas.

MCO Plans	Customer Service	Behavioral Health Services	Member Card Image
BMC HealthNet Plan www.bmchp.org BOSTON MEDICAL CENTER HEALTHNet PLAN	1-888-566-0010	**Beacon Health Strategies** 1-888-217-3501	
Tufts Health Together http://www.tuftshealthtogether.com TUFTS Health Plan	1-888-257-1985	**Tufts Health Together** 1-888-257-1985	

PCC Plan	Customer Service	Behavioral Health Services	Member Card Image
Primary Care Clinician (PCC) Plan* http://www.mass.gov/service-details/primary-care-clinician-pcc-plan-for-masshealth-members MassHealth PCC Plan	1-800-841-2900	**Massachusetts Behavioral Health Partnership (MBHP)** www.masspartnership.com 1-800-495-0086	

*Note:

- To enroll in the PCC Plan, members must also select a PCP in the MassHealth network. PCPs may not be available in all service areas.
- PCC Plan members can enroll in an ACO or MCO at any time.
- Community Partners, who provide long-term services and supports, are not available in the PCC Plan.
- Behavioral Health Community Partners are only available for PCC Plan members who also participate in Community Based Flexible Supports (CBFS), a Massachusetts Department of Mental Health program.