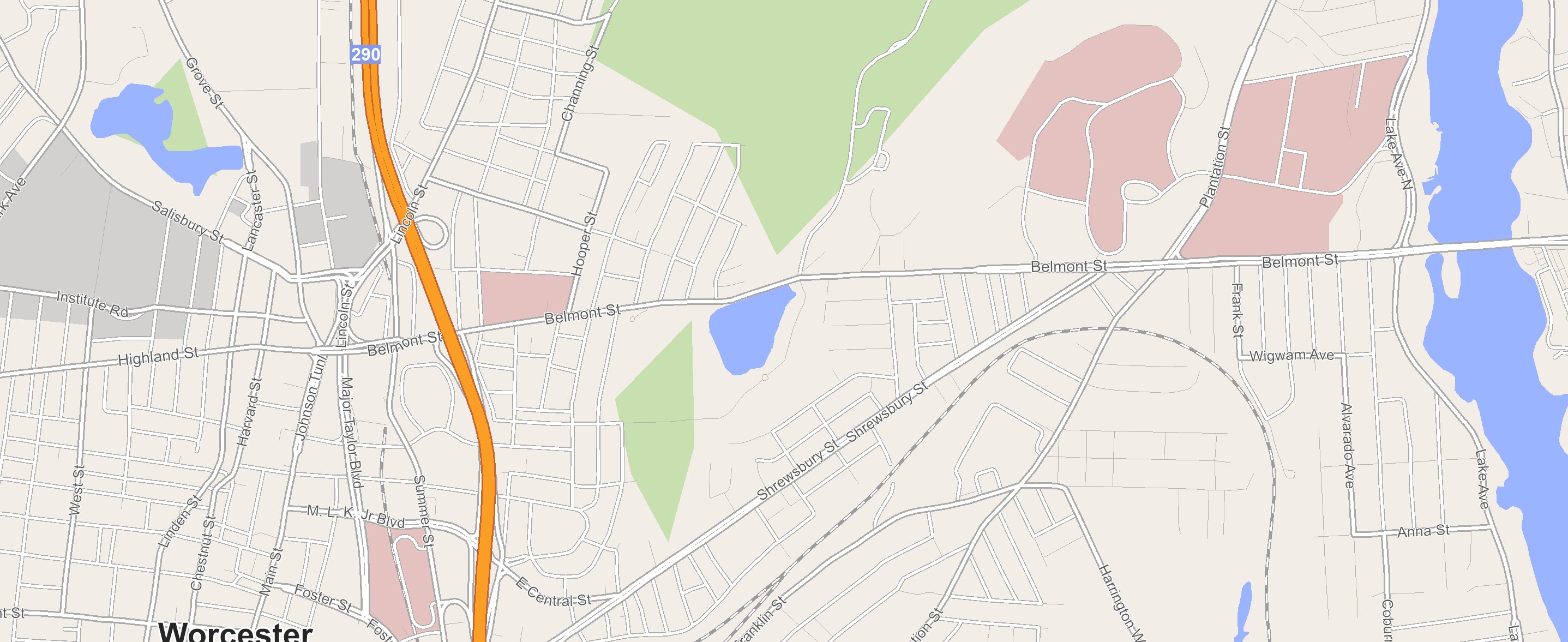
# EXHIBIT 1

## New tower is not closer than community hospitals to existing UMass EDs

UMass Memorial – Memorial Campus SVH UMass Memorial – University Campus New tower



New Tower

UMass Memorial Medical Center – Memorial Campus

UMass Memorial Medical Center – University Campus

Saint Vincent Hosptial (SVH)

Source: UMass filing, publicly available addresses and maps data

* UMass is expecting to outfit a new 72-bed tower for additional beds; the new tower will support ED to inpatient admissions and require ambulances for transferring patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UMass ED** | **Distance to new UMass tower (mi)** | **Ambulance required?** | **Distance to SVH (mi)** | **Ambulance required?** |
| **UMass Memorial Medical Center – University Campus** | ~0.6 | Yes | ~2.4 | Yes |
| **UMass Memorial Medical Center – Memorial Campus** | ~1.9 | Yes | ~1.0 | Yes |

* The UMass ED sites serviced by the new facility are similarly distanced to SVH, which has capacity to accommodate transfers

### EXHIBIT 2

**Occupancy rate (licensed beds)**

*Source: AHA data, UMass licensed bed statistics, SVH Data by YR provided by Tenet Strategy Team*

|  | **Inpatient Days (#)** | | **Licensed Beds (#)** | | **Occupancy Rates (%)** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Healthcare System** | **2019** | **2020** | **2019** | **2020** | **2019** | **2020** |
| **UMass Memorial Medical Center** | 208,648 | 211,706 | 733 | 747 | 78% | 78% |
| **UMass Memorial HealthAlliance-Clinton Hospital** | 34,881 | 32,276 | 152 | 152 | 63% | 58% |
| **Heywood Hospital** | 21,772 | 21,220 | 134 | 134 | 45% | 43% |
| **Harrington Hospital[[1]](#footnote-1)** | 20,727 | 20,743 | 129 | 129 | 44% | 44% |
| **UMass Memorial-Marlborough Hospital** | 16,571 | 16,472 | 79 | 79 | 57% | 57% |
| **Athol Hospital** | 3,340 | 3,446 | 21 | 21 | 44% | 45% |
| **SVH[[2]](#footnote-2)** | 69,441 | 66,819 | 290 | 290 | 66% | 63% |

# EXHIBIT 3

## Adding capacity may result in regional increases to cost of care

**Commercial relative price at UMass Medical Center and SVH compared to market average**

Relative price to market average

1.090

0.955

**14%**

1.000

**9%**

UMass SVH

Market average

**Medicare FFS reimbursement at UMass Medical Center and SVH for DRGs representative of the service lines stated by UMass**

|  |  |  |
| --- | --- | --- |
| **Service type** | **DRGs** | **Differential (SVH compared to UMass)** |
| Septicemia / severe sepsis | 870, 871, 872 | 14.1% |
| COPD | 190, 191, 192 | 17.4% |
| Heart failure | 291, 292, 293 | 16.9% |
| Pneumonia | 193, 194 | 15.9% |
| Pulmonary edema | 189, 208 | 16.2% |
| Respiratory infection | 177, 178, 179 | 16.2% |

* For commercial payers, UMass is ~9% above Massachusetts market average and

~14% above SVH costs

* For DRGs of service lines in UMass’ filing, UMass is ~14-17% more expensive than SVH for Medicare FFS
* Due to their relatively high cost of care, introducing additional beds at UMass could potentially increase regional costs

Source: Statewide commercial payer RP data, CMS IPPS Web Pricer

# EXHIBIT 4

## Adding beds will likely further increase UMass market share, potentially further reducing competition in the region

### 2021 Market share based on inpatient surgery volume for SVH SSA, Medicare FFS only

UMass

SVH

Other

**1.4%**

32.7%

15.8%

51.5%

In 2021,

UMass acquired Harrington Hospital

* + Prior to its 2021 acquisition, UMass held the highest market share at 50.1% after acquiring Harrington Hospital, UMass’ market share increased by 1.4% to 51.5%
  + With the acquisition, other area hospitals lost market share while SVH’s remained at 15.8%
  + UMass’ proposal for additional beds may further decrease market share of other local health systems

2021 Pre-acquisition 2021 Post-acquisition[[3]](#footnote-3)

34.1%

15.8%

50.1%

# EXHIBIT 5

## Estimated operating costs for med/surg beds should be measured against national and Massachusetts average

x

x

**Estimated**

Inpatient admissions

Average length of

Average cost per IP

**annual cost of inpatient bed**

= stay day

# of staffed IP beds

* + - National estimated operating cost for a med/surg bed is

|  |  |  |
| --- | --- | --- |
| **Metric** | **National average** | **Massachusetts average** |
| # of inpatient admissions | ~33.4M | ~809K |
| Average length of stay | ~5.5 | ~4.9 |
| $ per inpatient day | ~$2,873 | ~$3,462 |
| # of staffed inpatient beds | ~921K | ~15,000 |
| **Estimated annual cost per inpatient bed** | **~$550-600K** | **~$900-950K** |

~$600K annually

* + - In Massachusetts, estimated operation costs for a med/surg bed is ~$900K annually

Source: [American Hospital Association](https://www.aha.org/statistics/fast-facts-us-hospitals), [Kaiser Family Foundation 2020, fully loaded costs](https://www.kff.org/health-costs/state-indicator/expenses-per-inpatient-day/?currentTimeframe=0&sortModel=%7B%22colId%22%3A%22Location%22%2C%22sort%22%3A%22asc%22%7D), [Average length of stay in community hospitals](https://www.statista.com/statistics/183916/average-length-of-stay-in-us-community-hospitals-since-1993/) , [Massachusetts government](https://www.mass.gov/doc/command-center-hospital-capacity-charts/download), [Massachusetts Adult Care Hospital Inpatient Data](https://www.chiamass.gov/assets/docs/r/pubs/2020/CMSR-HIDD-FY2019-Report.pdf), 2018 – 2021 CMS LDS data (Medicare FFS)

# EXHIBIT 6

## UMass’ CMI adjusted LOS for non-psych inpatients is 20% higher than SVH, and grew faster over 2018-2021

### 2018 – 2021 Medicare FFS CMI adjusted LOS, inpatient excluding psych



SVH

3.5 UMass Medical Center

3.5

3.3

3.1

**5.6%**

2.9

2.8

2.7

2.7

**4.4%**

**CMI Adj LOS = Average LOS / case mix index (CMI)**

3.5

3.4

3.3

3.2

3.1

3.0

2.9

2.8

2.7

2.6

0

* From 2018 – 2021 UMass CMI adjusted LOS increased by ~5.6%,

~1.3x the increase at SVH, indicating that increase in length of stay is likely disproportionately higher that increase in level of care

* This likely indicates that operational inefficiencies exist and could lead to longer stays

2018

2019

2020

2021

Source: 2018 – 2021 CMS LDS data (Medicare FFS) for UMass, SVH Data by YR provided by SVH Strategy Team

# EXHIBIT 7

**UMass is in the bottom third of teaching hospitals and AMCs in MA for O/E LOS ratio**

### Q1-Q2 2021 inpatient Medicare O/E length of stay (LOS) for teaching hospitals and AMCs in MA, excluding psych and newborn

Median O/E Top quartile O/E

**45%**

1.35

1.37

1.40

1.41

1.22

1.24 1.27

1.11

1.13

1.14

1.15

1.20

0.99

0.88

**O/E = Observed LOS / expected LOS per discharge**

UMass Memorial Medical Center

* + O/E ratio >1 indicates acute inpatient days are often longer than

Carney Hospital

St.

Vincent

Mount Auburn

Lahey Tufts Hospital & Medical

St. Brigham Cambridge Baystate UMass Mass Elizabeth and Health Medical Memorial General

Brigham and

Boston Beth Israel MedicalDeaconess

1.21

1.03

expected days2

* UMass O/E is 1.27, indicating average acute inpatient stays are 27% longer than expected
* UMass is outperformed by 9 peers in MA and has an O/E 45%

Hospital

Hospital

Medical Center Center,

Burlington

Medical Women’s Alliance Center Faulkner

Hospital

Center

Medical Center

Hospital

Women’s Hospital

Center Medical

Center

higher than top

performing Carney

1. Average O/E performance across top 4 hospitals (Carney, St. Vincent. Mount Auburn, Lahey)
2. Expected days assessed per reason for hospitalization and patient factors (e.g., age, comorbidities, etc) Source: 2021 CMS LDS data (Medicare FFS) for academic medical centers in Massachusetts

Hospital

# EXHIBIT 8

## UMass could potentially create additional capacity by improving O/E LOS performance compared to other comparable AMCs

### Q1-Q2 2021 inpatient Medicare O/E length of stay (LOS) for comparable AMCs1

Top quartile

1.41

**O/E = Observed LOS / expected LOS per discharge2**

Second Quartile Third Quartile Bottom Quartile



1.26

1.06

1.16

UMass

UMass could potentially create additional bed capacity by matching Second Quartile or Top Quartile performance at comparable AMCs

|  |  |  |  |
| --- | --- | --- | --- |
| **O/E comparison** | **O/E ratio** | **Necessary inpatient beds** | **Potential capacity created** |
| UMass - current state | 1.27 | 747 | N/A |
| Second Quartile Average | 1.16 | ~683 | ~64 |
| Top Quartile | 1.06 | ~624 | ~123 |

average

1. Comparable AMCs defined as CMI (>1.8), Teaching level (>25% residents per total beds), Bed size (>350)
2. Expected days assessed per reason for hospitalization and patient factors (e.g., age, comorbidities, etc) Source: 2021 CMS LDS data (Medicare FFS) for academic medical centers

**EXHIBIT 9**

**2021 O/E LOS (excluding psych and newborn)**

*Source: Medicare FFS LDS data & AHA licensed beds for UMass*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **O/E** | **Comparison** | **Inpatient beds** | **# reduced from current**  **state** | **Source** |
| 1.27 | UMass current state O/E | 747 | 0 | 2021 CMS LDS data (Medicare FFS) for academic medical  centers in MA, AHA licensed beds data for UMass |
| 1.22 | National AMC average | 719 | 28 | 2021 CMS LDS data (Medicare FFS) for national academic  medical centers |

# EXHIBIT 10

## Increasing medical costs may continue to disproportionally impact households under 4x FPL

### 2021 Massachusetts Health Policy Commission Annual Healthcare Cost Trends Report on affordability (% surveyed experiencing affordability issue)

Household income under 400% FPL

Household income at or more than 400% FPL

59.3%

36.1%

38.2%

26.0%

26.8%

21.0%

16.0%

17.8%

12.4%

3.5%

Medical bills being paid over time

Problems paying family medical bills

High share of family income on out-of-pocket

Any unmet

Any of the four

health care affordability issues needs for family

Source: [2021 Massachusetts Health Policy Commission Annual Healthcare Cost Trends Report](https://www.mass.gov/doc/2021-health-care-cost-trends-report/download)

* Increasing regional costs will also impact patients; with 59.3% under 400% FPL and 38.2% above 400% FPL

with commercial insurance citing challenges to affordability of healthcare

* Increasing costs to healthcare greater impact on lower income adults across all affordability issues, and rises to regional costs may negatively impact affordability of care

### EXHIBIT 11

**Inpatient beds per 1,000**

*Source: AHA & CMS LDS data (Medicare FFS)*

| **County** | **Med / surg staffed beds per 1,000** |
| --- | --- |
| Plymouth, MA | 0.27 |
| Essex, MA | 0.50 |
| Norfolk, MA | 0.50 |
| Hampshire, MA | 0.57 |
| Franklin, MA | 0.67 |
| Middlesex, MA | 0.80 |
| Nantucket, MA | 0.89 |
| Bristol, MA | 0.90 |
| Dukes, MA | 1.03 |
| **Worcester, MA** | **1.17** |
| Barnstable, MA | 1.27 |
| Hampden, MA | 1.54 |
| Berkshire, MA | 1.55 |
| Suffolk, MA | 3.47 |
| ***Massachusetts avg*** | ***1.13*** |
| ***National avg*** | ***1.07*** |

1. Harrington Hospital licensed beds not available in AHA data; licensed beds found in 2022 UMass statistics report on licensed beds [(https://www.ummhealth.org/about-us/system-statistics)](http://www.ummhealth.org/about-us/system-statistics)) [↑](#footnote-ref-1)
2. SVH licensed beds provided by Tenet (Carolyn Jackson) [↑](#footnote-ref-2)
3. UMass acquired Harrington Hospital in June 2021

   Source: Trilliant All-Payor Surgical Data Sample [↑](#footnote-ref-3)