HEALTHCARE TRUST OF AMERICA, INC.

The Largest Dedicated Owner & Operator of Medical Office Buildings in the U.S.

June 2021

HTA

FORWARD LOOKING STATEMENTS

This document contains both historical and forward-looking statements. Forward-looking statements are based on current expectations, plans, estimates, assumptions and beliefs, including expectations, plans, estimates, assumptions and beliefs about our company, the real estate industry, pending acquisitions, future medical office building performance and the debt and equity capital markets. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended.

Forward-looking statements include information concerning possible or assumed future results of operations of our Company. The forward-looking statements included in this document are subject to numerous risks and uncertainties that could cause actual results to differ materially from those expressed or implied in the forward-looking statements. Assumptions relating to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond our control. Although we believe that the expectations reflected in such forward-looking statements are based on reasonable assumptions, our actual results and performance could differ materially from those set forth in the forward-looking statements. Factors which could have a material adverse effect on our operations and future prospects include, but are not limited to: changes in economic conditions affecting the healthcare property sector, the commercial real estate market and the credit market; our ability to complete our pending acquisitions; competition for acquisition of medical office buildings and other facilities that serve the healthcare industry; economic fluctuations in certain states in which our property investments are geographically concentrated; retention of our senior management team; financial stability and solvency of our tenants; supply and demand for operating properties in the market areas in which we operate; our ability to acquire properties, and to successfully operate those properties once acquired; changes in property taxes; legislative and regulatory changes, including changes to laws governing the taxation of REITs and changes to laws governing the healthcare industry; fluctuations in reimbursements from third party payors such as Medicare and Medicaid; changes in interest rates; the availability of capital and financing; restrictive covenants in our credit facilities; changes in our credit ratings; our ability to remain qualified as a REIT; and the risk factors set forth in our 2020 Annual Report on Form 10-K filed on February 24, 2021.

Forward-looking statements speak only as of the date made. Except as otherwise required by the federal securities laws, we undertake no obligation to update any forward-looking statements to reflect the events or circumstances arising after the date as of which they are made. As a result of these risks and uncertainties, readers are cautioned not to place undue reliance on the forward looking statements included in this document or that may be made elsewhere from time to time by, or on behalf of, us.

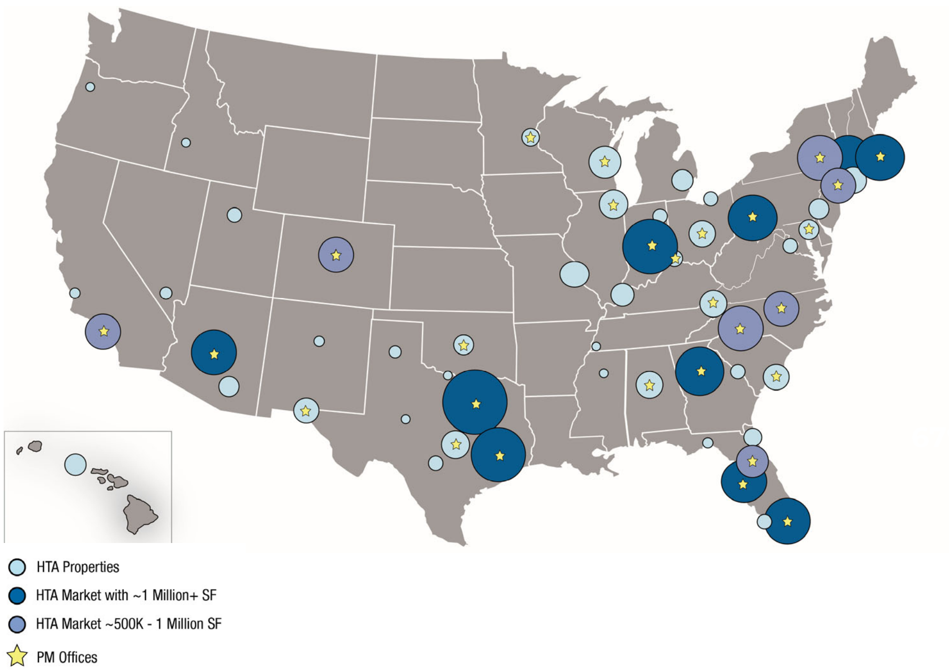
The Company has an effective registration statement (including a prospectus) with the Securities and Exchange Commission (the “SEC”). Before you invest in any offering of the Company’s securities, you should read the prospectus in that registration statement and other documents the Company has filed with the SEC for more complete information about the Company and any such offering. You may obtain copies of the Company’s most recent Annual Report on Form 10-K and the other documents it files with the SEC for free by visiting EDGAR on the SEC website at www.sec.gov. Alternatively, the Company will arrange to send such information if you request it by calling (480) 998-3478.

For definitions of terms and reconciliations for certain financial measures disclosed herein, including, but not limited to, funds from operations (FFO), normalized funds from operations (Normalized FFO), annualized base rents (ABR), net operating income (NOI), and on-campus/aligned, please see our Company’s earnings press release and Supplemental Financial Package for the quarter ended March 31, 2021 issued on May 6, 2021 and our Company’s Supplemental Financial Package for the quarter and year ended December 31, 2020, each of which is available in the investor relations section of our Company’s website located at www.htareit.com.

HTA: THE LARGEST DEDICATED OWNER & OPERATOR OF MEDICAL OFFICE BUILDINGS IN THE U.S.

$7.5B	25.6M SF	4.6% Yield*	BBB / Baa2
GROSS INVESTMENTS	ACCROSS 471 BUILDINGS	ANNUAL DIVIDEND INCREASE SINCE 2014	INVESTMENT GRADE BALANCE SHEET

Best in Class Portfolio Focused in 20-25 Key Markets



The HTA Difference

- **Industry Leading Portfolio**: Core, critical MOBs where healthcare demand is growing: on-campus, core community outpatient, and academic locations. *With limited ground lease restrictions*
- **Key Market Focus**: Investing in high growth markets where we can achieve operational scale. 10 markets of ~1MM SF and 17 markets >500k SF
- **Unique, Vertically Integrated Operating Platform**: The strength of a dedicated, national platform delivering tenant satisfaction, performance and growth in our key markets
- **Strong and Diverse Tenant Base**: Partnered with leading healthcare providers in our markets. ~74% of tenants are Health Systems or National/Regional providers. 60% of tenants are credit rated
- **Steady and Consistent Performance**: Delivering earnings growth to the bottom line, even during COVID
- **Dividend Growth**: Only MOB REIT to raise dividend each of the last 7 years
- **Investment Grade Balance Sheet:** $1.3 billion in liquidity and low leverage positions HTA for future growth and stability

All values as of March 31, 2021, unless otherwise noted.
**Dividend Yield as of June 4, 2021*

Q1 2021 PERFORMANCE AND TIGHTENED EARNINGS GUIDANCE

HIGHLIGHTS	• **Record Normalized FFO** of $0.44 per diluted share, an increase of 4.8% compared to Q1 2020 • **Record Normalized FAD** of $88.8MM, an increase of 14.7% compared to Q1 2020 • Same Store Cash NOI growth of 1.6%
PORTFOLIO PERFORMANCE	• Leased rate of 89.2% by GLA and occupancy rate of 87.9% by GLA for Q1 2021 • Executed 700k SF of leases for Q1 2021, including 207k SF of new leases and 497k SF of renewals with **re-leasing spreads of 3.1%** - the highest level of new leasing in more than 12 quarters
INVESTMENT ACTIVITY	• Acquired **$33MM** of MOBs at average yields of 5.8%. • Existing Developments on-track for completion & stabilization in 2021. By our earnings announcement, we had substantially completed our on-campus developments in Miami, Florida and Bakersfield, California that total **$**51MM of investment and are **82% leased** with cash rents commencing in Q3 2021. Our 109K SF development in Dallas, Texas remains on schedule for completion in Q3 2021 and is currently 74% pre-leased
BALANCE SHEET & LIQUIDITY	• Maintained our strong balance sheet with **liquidity of $1.3 billion**. Leverage of 5.4x Debt/ EBITDAre including $277MM of forward equity, and no bond maturities before 2026
TIGHTENED 2021 GUIDANCE	• Normalized FFO of $1.73 to $1.79, increasing low end from previous guidance of $1.71 • Same Store NOI Growth of 2.0% – 3.0% • Acquisitions of $300 - $600MM, Dispositions of $65 – 100MM, Development Completions of $130MM • Utilize our Forward Equity as we acquire assets

RECENT INVESTMENT ACTIVITY AND DEVELOPMENT UPDATE

2021 INVESTMENT ACTIVITY	• $257MM of Investments closed or under exclusive negotiation. Includes $67MM of investments closed through June 4, totaling over 157K SF of GLA. The remaining $190MM of investments totaling approximately 469K SF of GLA, including commitment of $50MM of mezzanine debt in connection with Texas A&M Innovation Plaza. Investments expected to close in Q3 2021, subject to customary closing conditions, and are concentrated in key markets • Dispositions of $67MM – Closed on the previously announced sale of portfolio in secondary markets in Tennessee and Virginia
TEXAS A&M INNOVATION PLAZA	• Strategic Partnership with Medistar Corporation to finance and develop the Texas A&M Innovation Plaza located in the Texas Medical Center in Houston • Innovation Plaza consists of 485k SF MOB / Life Science Tower called the Horizon Tower, Student Housing and a parking garage • HTA's investment will consist of: (i) $50MM in mezzanine debt to construct the student housing and parking garage and (ii) joint venture in the $215MM Horizon Tower which will start construction in 2022
OTHER DEVELOPMENT PIPELINE	• 3 MOB developments totaling 338K SF in various stages of pre-leasing • Will be developed at costs anticipated to be in excess of $140MM • Projects expected to be over 70% pre-leased by the time of construction, some of which are expected to commence in late 2021 • Include projects in existing key markets in North Carolina and Texas • Developed on land owned by HTA as well as through new joint ventures with local developers • Total development pipeline of $360MM with over 800k SF of GLA

TEXAS A&M INNOVATION PLAZA

HTA has formed a strategic partnership with Medistar Corporation to finance and co-develop the Texas A&M Innovation Plaza, a five-acre mixed-use project located at the Texas Medical Center, the largest medical center in the world

Texas Medical Center:
The Texas Medical Center ("TMC") is the largest medical center in the world, with 10 million patient visits per year and over 50 million square feet of patient care, research and education. Once completed, HTA will have invested over $300 million in the TMC, with MOBs totaling almost 1 million square feet.

Innovation Plaza Highlights
The Texas A&M Innovation Plaza is one of the last remaining parcels available for development within the TMC and represents Texas A&M's first-ever campus in the Texas Medical Center as well as Texas A&M's largest Public-Private-Partnership (P3) in its history located outside of College Station.

Phase I: 714-bed Medical Student Housing Facility
Phase II: 2,600 Stall Parking Structure
Phase III: 485,000 SF Medical Office/Life Science Tower

HTA has committed $50 million of mezzanine debt to fund the construction of the 19-story, purpose-built student housing structure and parking garage, of which $15 million has already been invested.

HTA will be the equity partner and co-developer with Medistar of the medical office and life science tower, known as Horizon Tower, with a total project budget of approximately $215 million.

DEVELOPMENT PLATFORM DRIVES ACCRETIVE GROWTH

HTA's Development Platform utilizes our MOB expertise, market intelligence, and relationships to develop medical office for the future of healthcare delivery that generate above average returns for investors.

Recently Completed Projects

WakeMed Cary MOB – Raleigh, NC
HTA completed a new 125,000 SF, Class A medical office building in Raleigh, NC in the Fall of 2020. The new MOB is adjacent to WakeMed Cary Hospital, and in close proximity to the newly announced regional campuses of Apple, Google, and Nike

Project Highlights:
GLA: 125,000 SF
Project Cost: $46MM
Currently Leased: 90%+

Jackson South MOB – Miami, FL
HTA completed a new 51,000 SF, Class A medical office building in the Coral Reef submarket of Miami in the Spring of 2021. The new MOB is adjacent to the Jackson South hospital.

Project Highlights:
GLA: 51,000 SF
Project Cost: $21MM
Currently Leased: 70%

Memorial Hospital MOB– Bakersfield, CA
HTA completed a new 84,000 SF, Class A medical office building in Bakersfield, CA in the Spring of 2021. The new MOB is adjacent to CommonSpirit's Memorial Hospital MOB.

Project Highlights:
GLA: 84,000 SF
Project Cost: $29MM
Currently Leased: 90%+

DEVELOPMENT PIPELINE

Developments Under Construction

Pavilion III – Dallas, TX

This 109,000 SF Class A medical office building is located on HCA's new Medical City Heart & Spine Hospital in Dallas, TX. This hospital was opened in the former Forest Park hospital in 2019. HTA's investment on this campus will total over 300k of fee-simple MOBs on completion, with additional land for a 4th MOB on-site.

Project Highlights:
GLA: 109,000 SF
Project Cost: $60MM
Currently Leased: 74%+
Estimated Completion: 3Q 2021

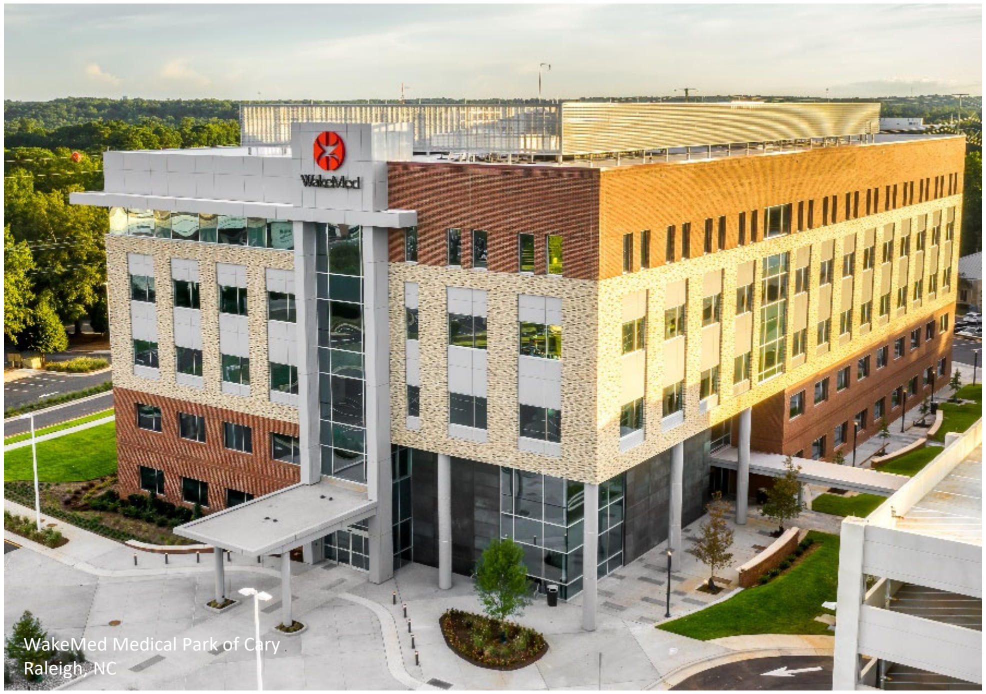
Developments in Pre-Leasing

HTA is actively pursuing multiple development opportunities in our key markets. These projects include hospital direct deals, local developer JV's, and developments on land owns or has purchased. At this time, we have 3 projects that are in the pre-leasing phase in North Carolina and Texas. These projects represent investments of approximately $140 million and will include more than 338,000 SF of Class A MOB space located in submarkets experiencing significant population growth. Projects will start construction as soon as 4Q 2021.

Raleigh MOB – Local JV

Houston MOB – HTA Land

Cary MOB II – Campus Densification



WakeMed Medical Park of Cary
Raleigh, NC

THE HTA DIFFERENCE

CREATING THE SUPERIOR PLATFORM

SINCE 2014, WE HAVE GROWN OUR PORTFOLIO & EARNINGS WHILE INCREASING OUR CAPABILITIES AND ESTABLISHING SCALE IN KEY MARKETS WHICH WE BELIEVE FACILITATES COMPANY OPERATIONS & LONG-TERM GROWTH OPPORTUNITIES

	2014	2021
Portfolio Size ($B)	$3.0B	$7.5 B
Portfolio Size (GLA in millions)	14.1MM SF	25.6MM SF
Top Five MSAs	Phoenix Pittsburgh Greenville Albany Indianapolis	Dallas Boston Houston Miami Indianapolis
1 MM SF Markets	3	10
500K SF Markets	10	17
In-House Property Management (GLA in MM)	90% 13.4MM SF	97% 24.7MM SF
% MOB's	92%	95%
Development In Process/LTM Completion ($ in MM)	$0	$154.1MM
Earnings (NFFO/Share)	$1.46	$1.76 [(1)]
Payout Ratio	91%	80%
Leverage (Net Debt / Adjusted EBITDA*re*)	5.7x	5.9x

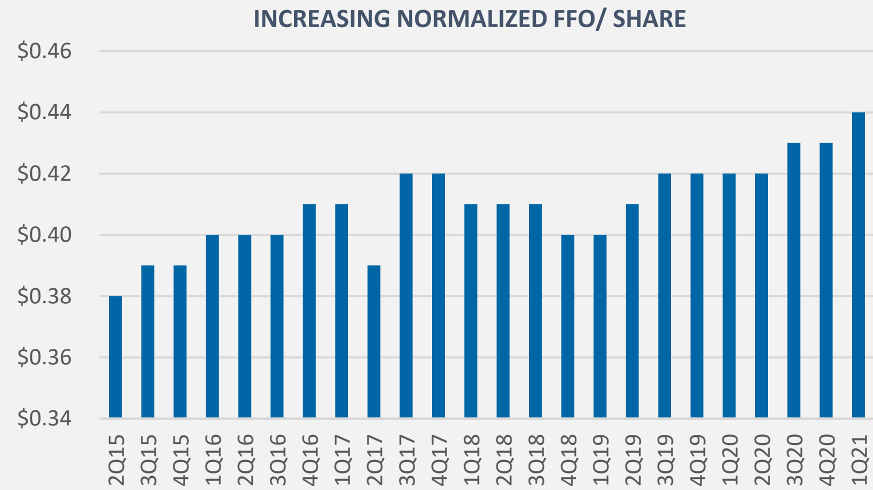

Estrella Medical Plaza
Phoenix, AZ

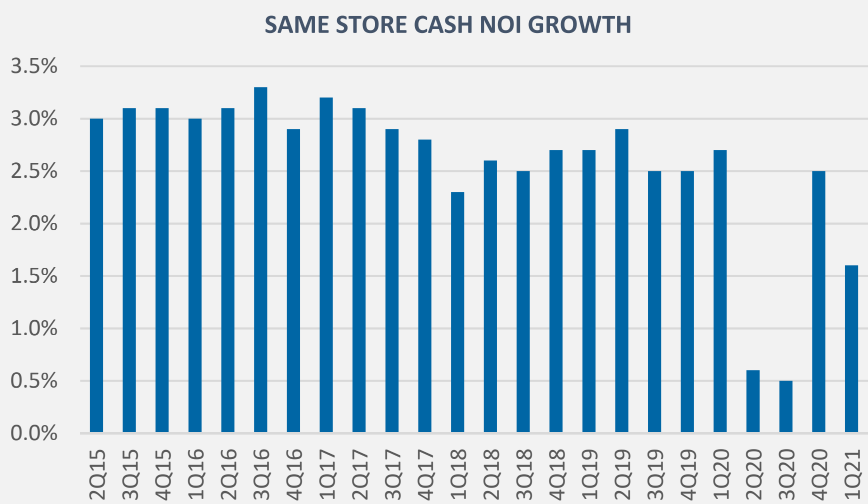
Please reference the Company's filed and furnished financial reports for the respective periods for financial reconciliations
Payout ratio defined as dividends paid per share out of funds available for distribution (FAD) on a per share basis
(1) 2021 NFFO/Share annualized as of March 31, 2021

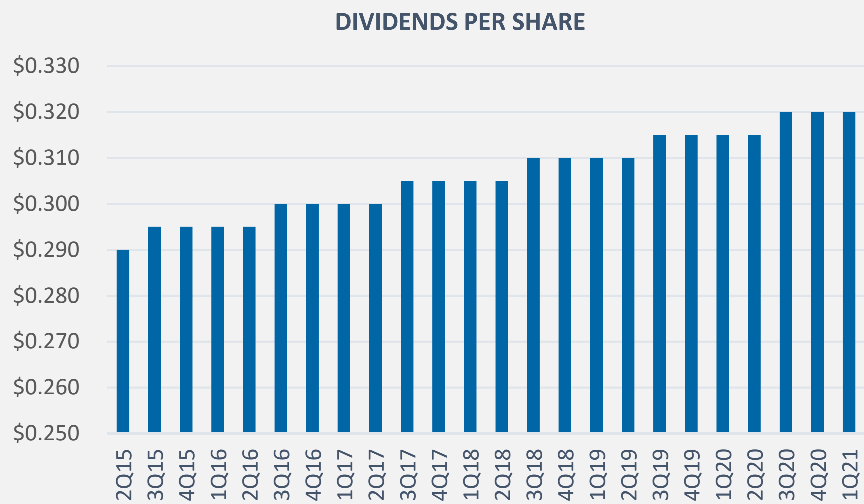
PROVEN TRACK RECORD OF PERFORMANCE TO BOTTOM LINE

CONSISTENT PERFORMANCE IN DYNAMIC MARKET CONDITIONS

- Continued earnings growth through COVID-19
- **2.7%** Average same-store NOI growth since 2014
- **11.3%** Dividend growth since 2014
- **209%** Shareholder return since inception

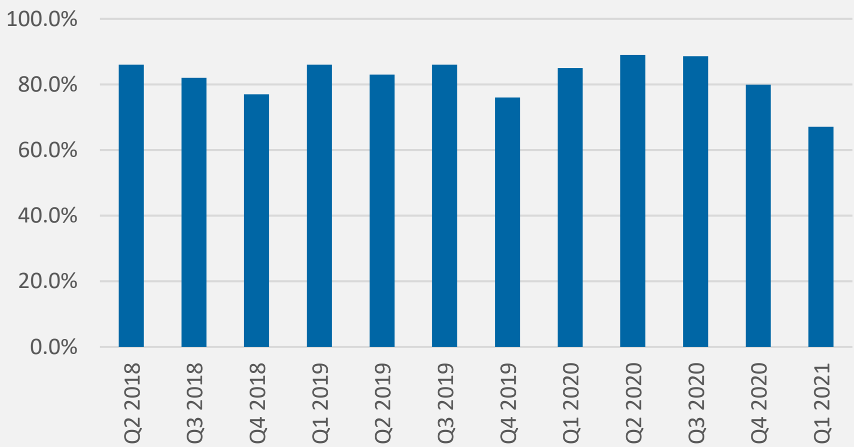




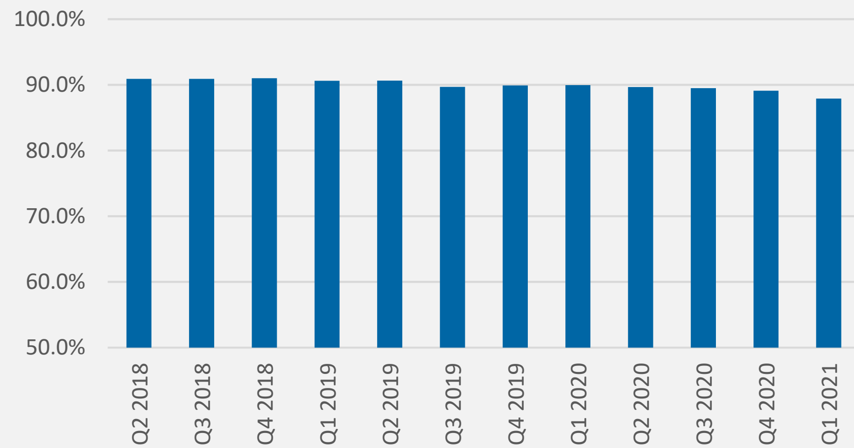


CONTINUED LEASING STRENGTH

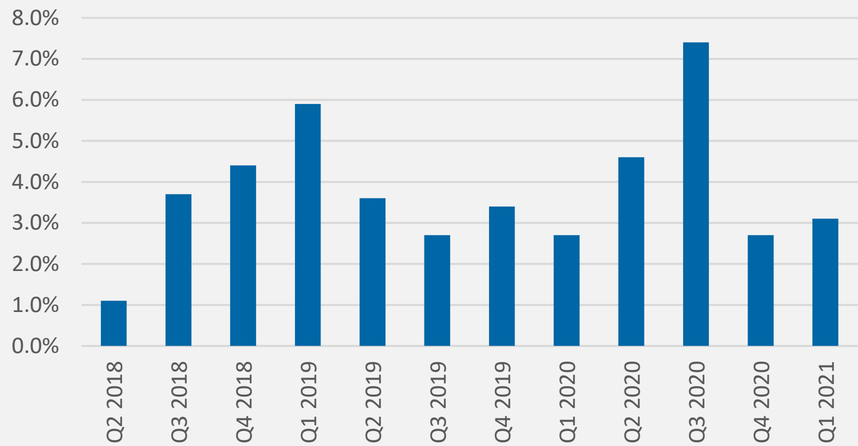
RETENTION



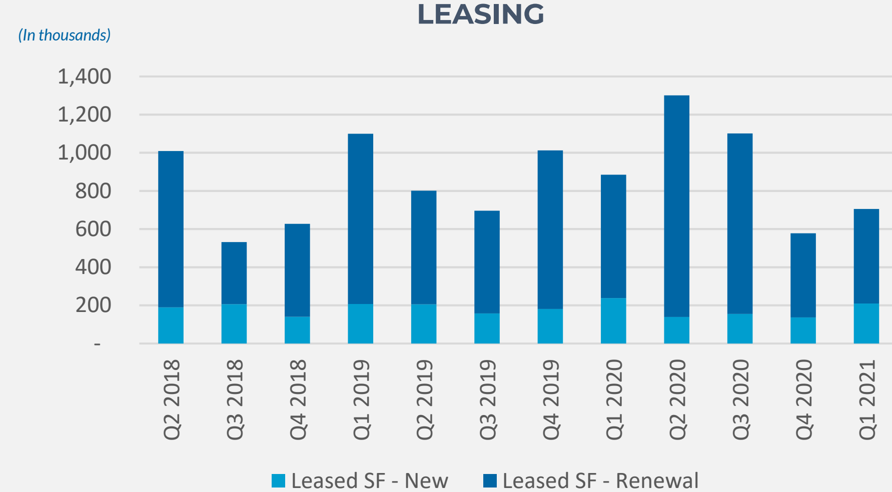
OCCUPANCY



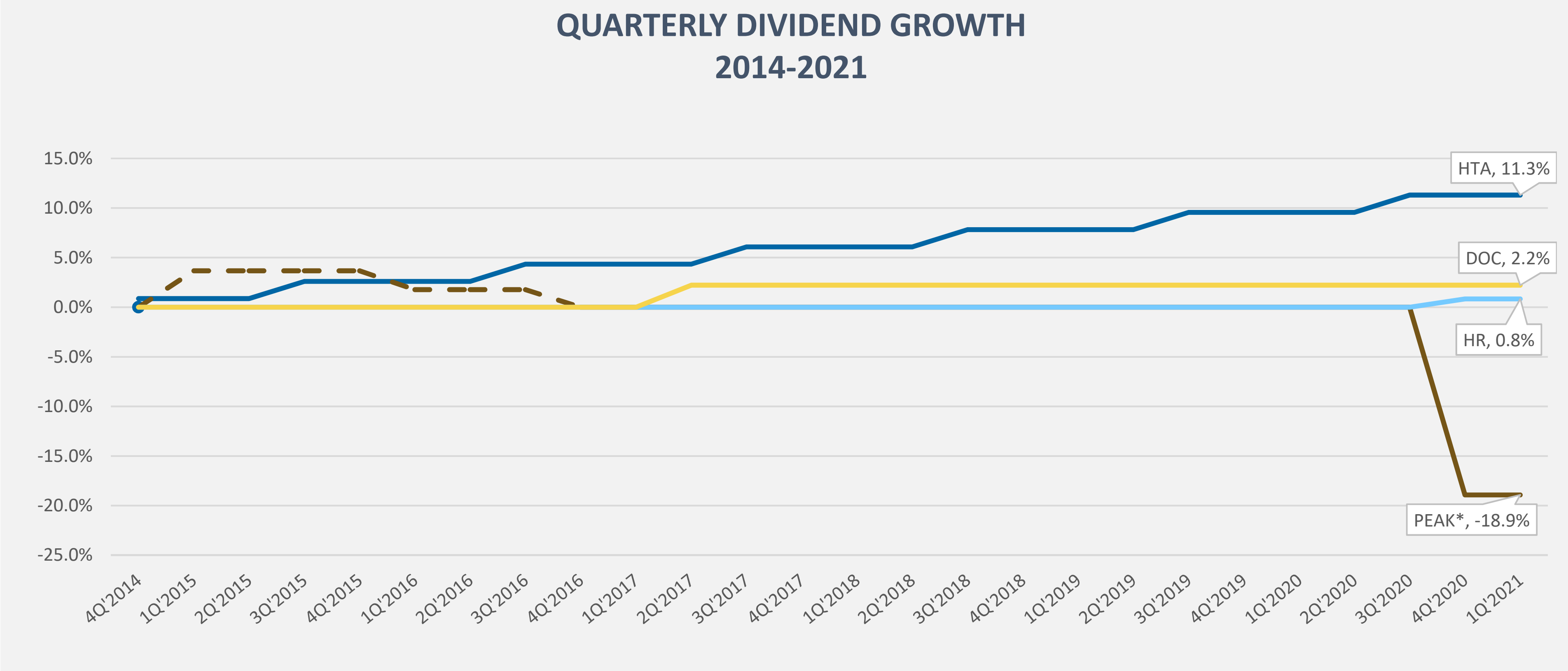
RE-LEASING SPREADS



LEASING



THE **ONLY** MOB REIT WITH PROVEN, CONSISTENT DIVIDEND GROWTH



**Information for PEAK is reflective of dividend growth post spinoff of Quality Care Properties, Inc. in Q4 2016*

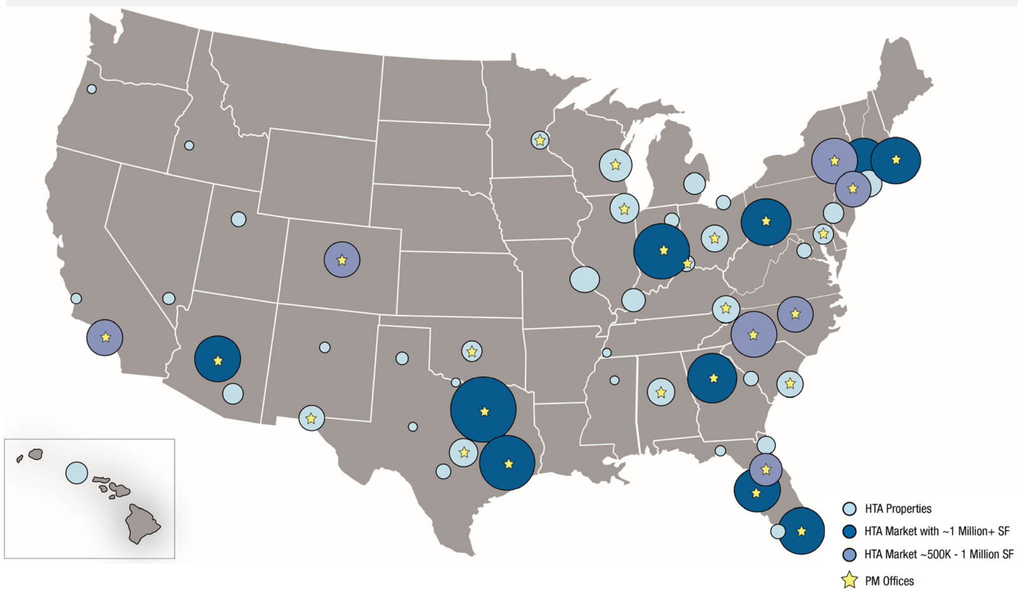
PORTFOLIO SNAPSHOT

Critical Mass in Established **Gateway Markets**

HTA **MARKET CRITERIA**

HIGH GROWTH MARKETS WITH DENSE PATIENT BASE
Location, Location, Location. **93%** of our GLA located is in the top 75 MSAs, most with strong academic university concentration. We strategically invest in some of the fastest growing markets where we can build scale to efficiently service our properties and provide value to our tenants.

SCALABILITY
We believe each key market should hit a critical mass of 1-2 million SF to create operating synergies and enhanced relationships with local providers that drive growth. We have reached economies of scale in 10 markets of ~1MM SF and 17 markets >500k SF.



Key Markets	Annualized Base Rent	% of Annualized Base Rent
Dallas, TX	$ 54,344	9.7%
Boston, MA	35,237	6.3
Houston, TX	32,527	5.8
Miami, FL	26,834	4.8
Indianapolis, IN	25,860	4.6
Hartford/New Haven, CT	25,142	4.5
Atlanta, GA	25,010	4.5
Phoenix, AZ	24,638	4.4
Tampa, FL	24,484	4.4
Pittsburgh, PA	20,138	3.6
Raleigh, NC	19,131	3.4
Charlotte, NC	18,437	3.3
Orange Count/Los Angeles, CA	17,137	3.0
New York, NY	15,555	2.8
Albany, NY	14,823	2.6
Chicago, IL	13,893	2.5
Orlando, FL	12,630	2.2
Denver, CO	12,100	2.2
Austin, TX	9,106	1.6
El Paso, TX	8,850	1.6
Top 20 MSAs	**$ 435,876**	**77.8%**
Additional Top MSAs	89,102	15.9
Total Key Markets/Top 75 MSAs	**$ 524,978**	**93.7%**

ON-CAMPUS AND OFF-CAMPUS STRATEGY

Our Portfolio of Both On-Campus and Off-Campus Facilities are **Essential** to the Delivery of **Healthcare.** Our diligent underwriting and investment expertise has created a portfolio where both our on-campus and off-campus MOBs are focused on attractive submarkets, with similar mix of primary care and specialists, and health system tenancy that drives strong levels of tenant retention, occupancy stability, and rent growth over time.

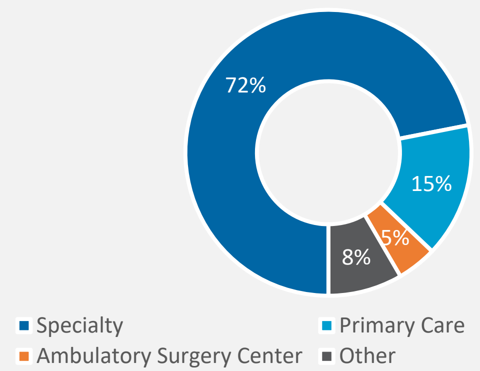
On-Campus - 67%

Key Considerations:

- Long-term demand supported by hospital infrastructure and ancillary services
- Limited developable land around hospital campuses
- Designated healthcare cluster drives referral patterns
- Hospital / University name recognition and reputation
- Clinical, lab, research, and academic space shapes future delivery of healthcare
- ***On-Campus / Adjacent:* Many on-campus MOB's are subject to ground leases that allow health systems to restrict leasing and other activities. As such, HTA's portfolio of On-Campus MOBs is specifically targeted to fee-simple ownership which allows for greater leasing flexibility and superior returns.**

Tenant Specialty – On Campus

(% of GLA)



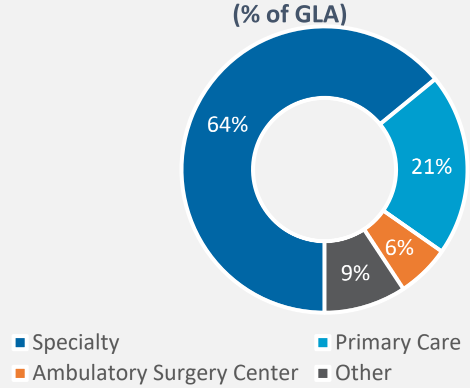
Core Community Outpatient - 33%

Key Considerations:

- Strategically located, multi-tenanted MOBs within high-income, faster growth submarkets that are increasingly targeted by healthcare providers
- Advances in technology have allowed an increasing number of procedures to be performed off-campus; including knee and hip replacements.
- Provider preferences shifting to "off-campus" (source: Revista Survey)
- No restrictions – multiple providers and health system networks compete for space

Tenant Specialty – Off Campus

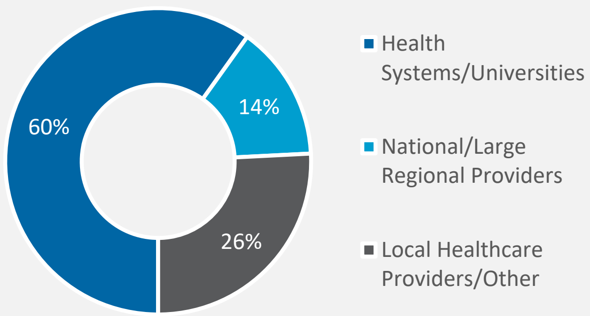
(% of GLA)



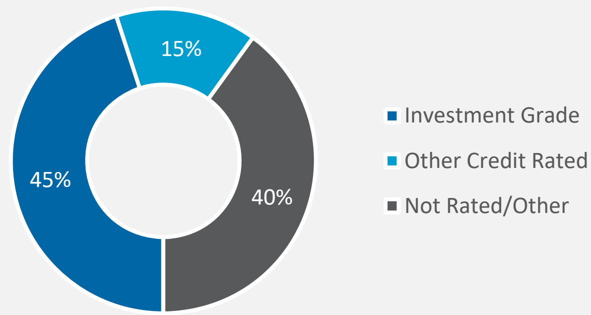
STRONG STABLE TENANT RELATIONSHIPS

Tenant Diversification and Viability Position our Portfolio for Long-Term Performance

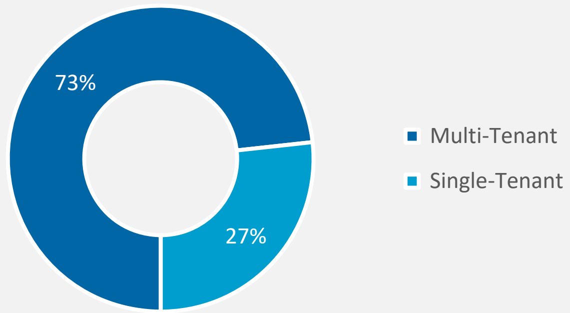
Tenant Classification
(% of Annualized Base Rent)



Credit Rated Tenancy
(% of Annualized Base Rent)



MOB Tenant Diversification
(% of MOB GLA)



74% of our tenant base is comprised of health systems, universities, and large/regional providers and **60%** of our tenant base is credit rated

Our Partners are the Top Health Systems in our Key Markets in both On-Campus and Off-Campus Facilities

BaylorScott&White HEALTH · HCA Healthcare · HIGHMARK · ASCENSION · Mercyhealth · AdventHealth · Atrium Health · OPTUM · Steward · CHS Community Health Systems · Tenet Health · Tufts Medical Center · CommonSpirit

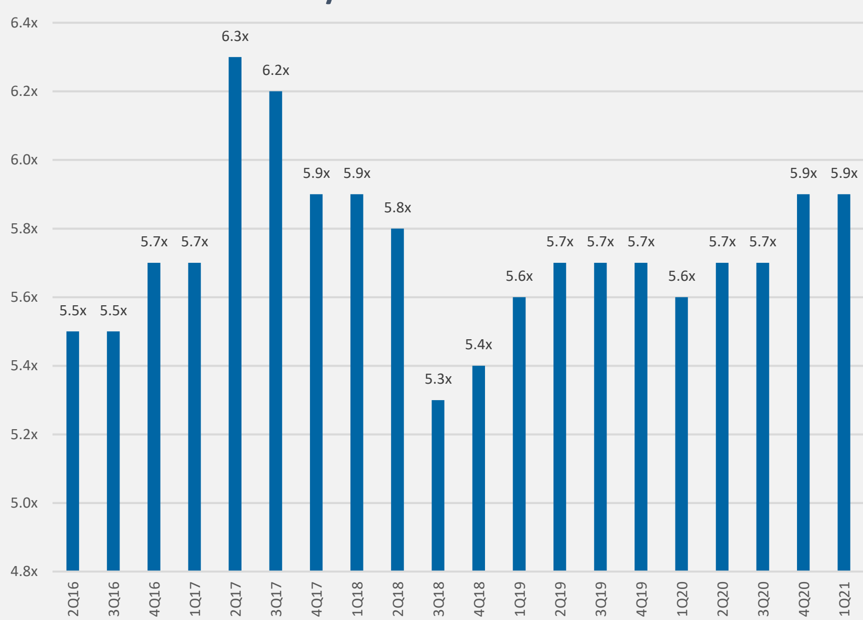
BALANCE SHEET POSITIONED FOR STABILITY & GROWTH

$1.3B
Liquidity (1)

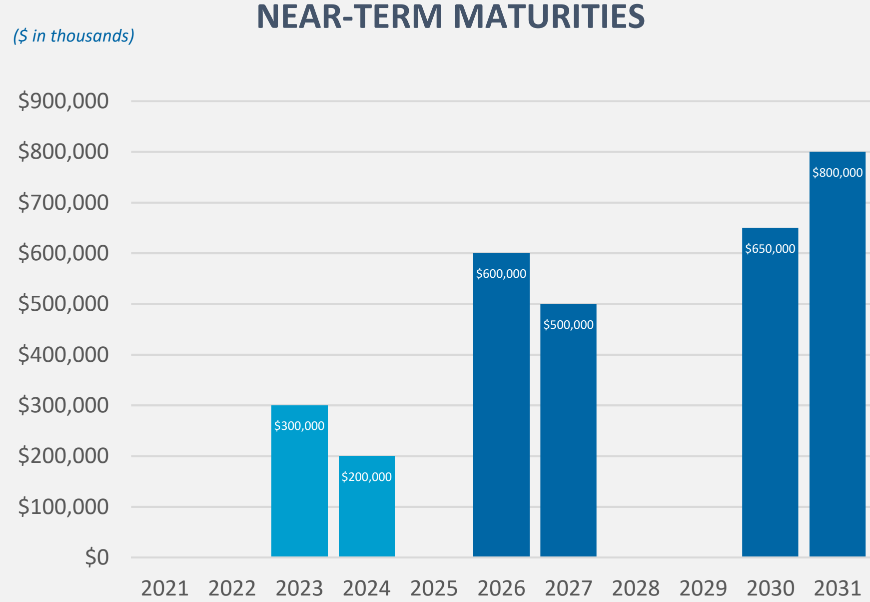
BBB/Baa2
Standard & Poor's/Moody's Credit Rating

5.4x
Net Debt / Adj. EBITDAre (2)

Net DEBT / ADJUSTED EBITDAre



LADDERED DEBT CAPITALIZATION WITH LIMITED NEAR-TERM MATURITIES



Source: Company Filings; Data as of 3/31/2021
(1) Includes Undrawn Capacity on Revolving Credit Facility, Cash & Cash Equivalents and Unsettled Equity Forward Agreements
(2) Includes Unsettled Equity Forward Agreements

The Pavilion MOB
Dallas, TX

MOB SECTOR UPDATE

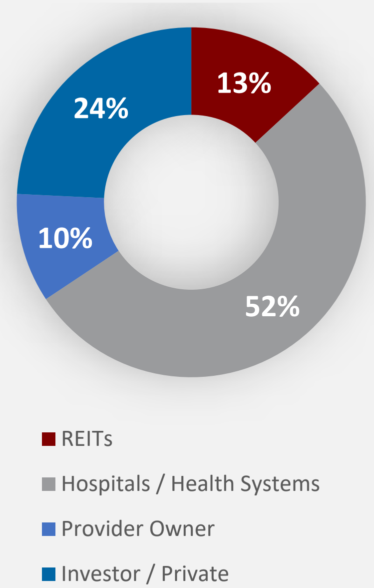
THE MEDICAL OFFICE BUILDING THESIS

Why Healthcare?

- Healthcare is the fastest growing sector in dollars and in employment within the US.
- Healthcare is shifting to outpatient locations to focus on cost-effective care. Medical Office Buildings, or "MOBs," are the primary beneficiary of this trend.
- Healthcare providers are consolidating and will require new and innovative capital providers who can help meet their strategic goals.

Why Medical Office Buildings?

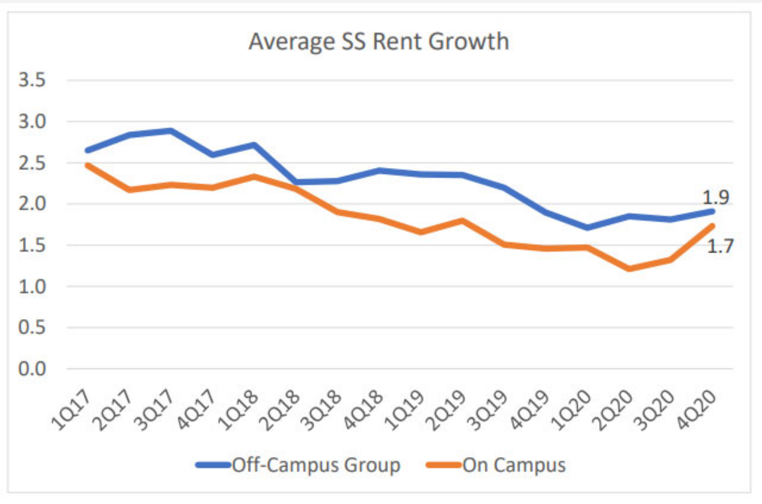
- MOBs are traditional real estate where location, barriers to entry, and operations are critical.
- MOBs deliver steady and consistent growth with limited capital and volatility in all market conditions.
- MOB sector is fragmented, with less than 20% owned institutionally, which provides opportunity for HTA to capture market share.
- MOBs have limited new supply concerns.
- Dedicated MOB operators understand healthcare providers and the real estate dynamics to ensure premium performance.



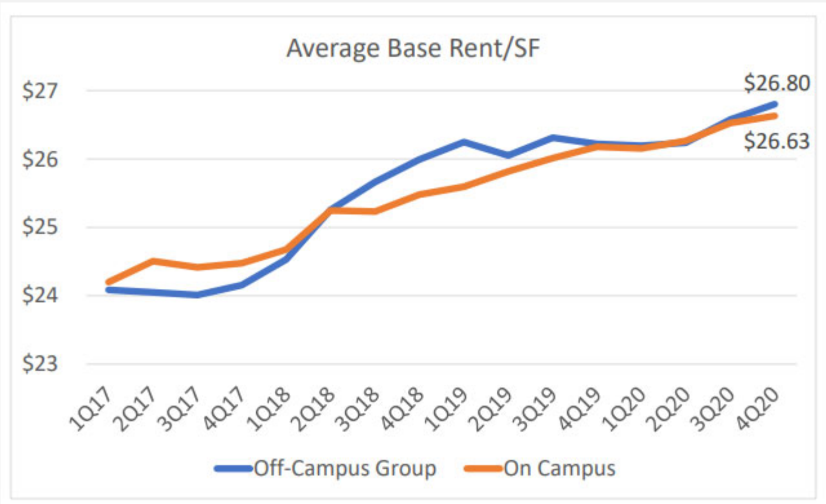
Source: Revista

ON-CAMPUS & COMMUNITY CORE OUTPATIENT

Both On-Campus and Community Core Locations Demonstrate Strong Fundamentals



Source: Revista http://mobscene.revistamed.com/wp-content/uploads/2021/02/Off-Campus-Report.pdf



Source: Revista http://mobscene.revistamed.com/wp-content/uploads/2021/02/Off-Campus-Report.pdf

Pricing and Growth:

- Despite the assumption on-campus favors higher rents and growth, the data on these metrics suggests otherwise
- Rent growth and average base rents for community-core properties have trended to be **equal to or greater than** their on-campus medical office counterparts
- High quality community-core assets continue to be a key component of our asset mix and affords investment flexibility

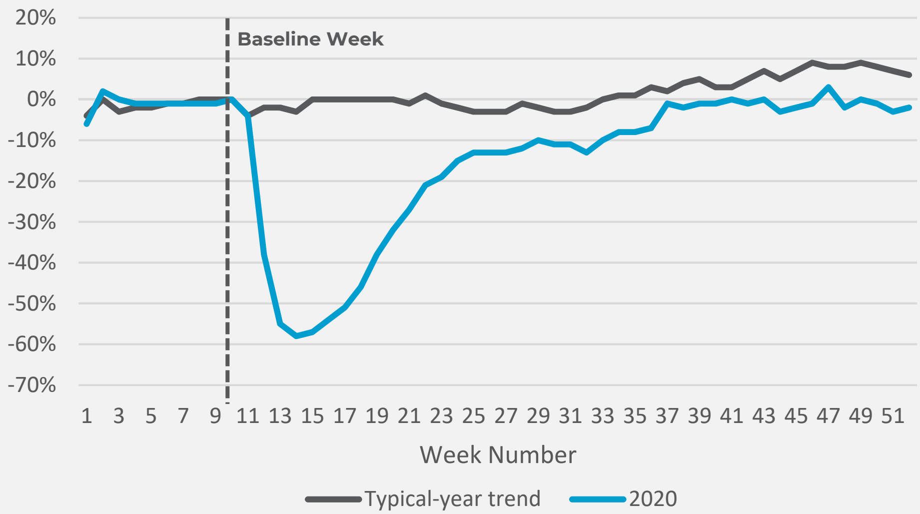
Community-Core Trends:

- Over the past decade, care options, including those provided by ambulatory surgery centers have expanded in community-core settings
- Convenience plays an increasing role as patients have an alternative to traditional on-campus visits – allowing for care delivery typically closer to residential areas
- Diverse practice types located in multi-tenant community-core locations provides for broad and comprehensive care options

MEDICAL OFFICE RESILIENCY DURING COVID-19

MOBs demonstrated their stability during the COVID pandemic, with patient visits rebounding quickly after the initial shut-downs.

Percent Change in Number of Ambulatory Visits In A Given Week Since Baseline Week (March 1 – 7)



Note: Data are presented as a percentage change in the number of visits in a given week from the baseline week (Week 10, or March 1–7, 2020). "Typical year" data from 2016 to 2019 were also calculated as a percentage change from the baseline week — week 10 — in those years. Data are equally weighted across the four years.

Source: Ateev Mehrotra et al., The Impact of COVID-19 on Outpatient Visits in 2020: Visits Remained Stable, Despite a Late Surge in Cases (Commonwealth Fund, Feb. 2021). https://doi.org/10.26099/bvhf-e411

Trends Accelerated by COVID-19:

- Increased use of telemedicine, which is growing overall patient volumes
- Shift to lower-cost and more convenient outpatient locations
- Increasing provider consolidation

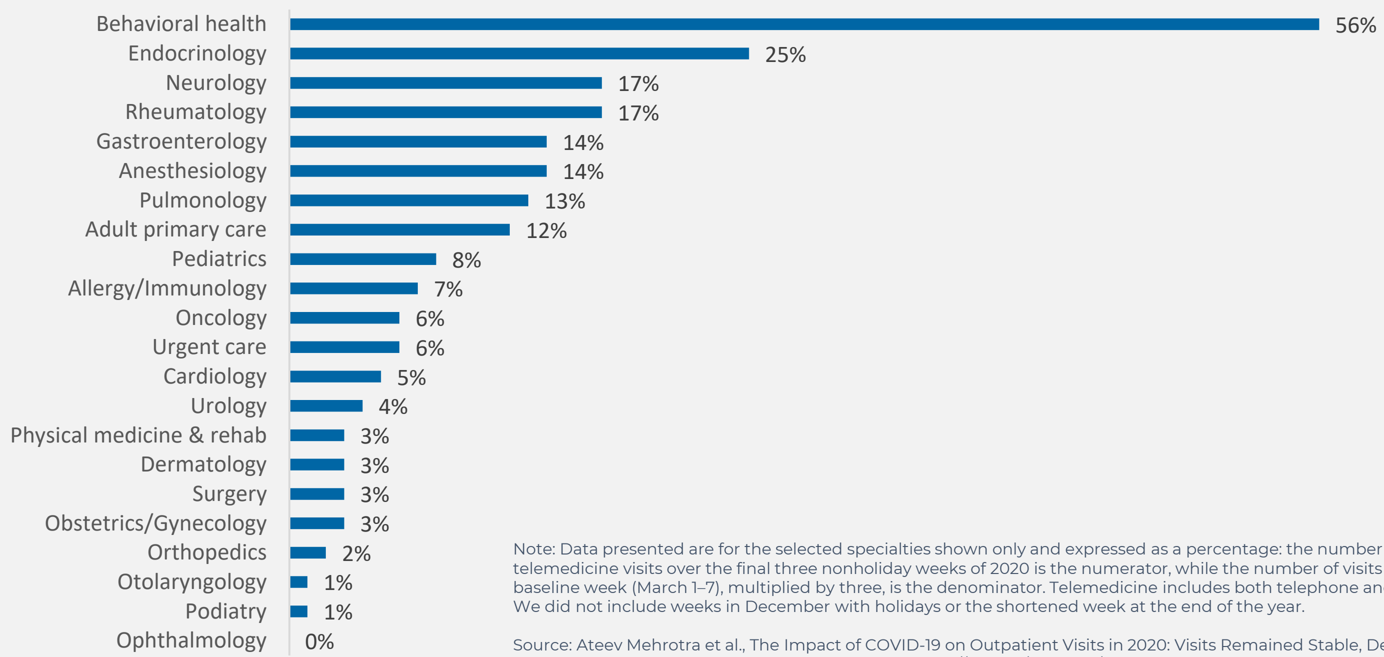
HTA's COVID-19 Response:

1. Focused on healthcare relationships
2. Positioned portfolio for rebound and focus on outpatient growth
3. Remained disciplined in our investment approach, focusing on key markets and assets that we expect to perform over the long-term
4. Preserved our capital and balance sheet

TELEMEDICINE: IMPACT ON MEDICAL OFFICE

There is a distinct variation in telemedicine use across specialties. Specialty practices are continuing to see the majority of patients in a clinical setting, which we expect to continue post-COVID

December 2020 Virtual Visits as a Percentage of Total Baseline Visits



Note: Data presented are for the selected specialties shown only and expressed as a percentage: the number of telemedicine visits over the final three nonholiday weeks of 2020 is the numerator, while the number of visits in the baseline week (March 1–7), multiplied by three, is the denominator. Telemedicine includes both telephone and video visits. We did not include weeks in December with holidays or the shortened week at the end of the year.

Source: Ateev Mehrotra et al., The Impact of COVID-19 on Outpatient Visits in 2020: Visits Remained Stable, Despite a Late Surge in Cases (Commonwealth Fund, Feb. 2021). https://doi.org/10.26099/bvhf-e411

THANK YOU