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An Examination of Hospital Valuation Methods

Summary

Valuation is perhaps the most difficult and delicate art practiced by analysts and investors. We seek, in a rigorous way, to assess current and project future stock prices using methods that purport, but often fail, to encompass all of the aspects of the enterprise: cap structure, growth, margin, FCF productivity and the 'quality' of the business. In this report, we check the academic literature for help in finding a rigorous, definitive approach and, finding none, revert to arguing for a blended metric of EV, PEGs and FCF multiples.

Company	Symbol	Price (1/29)	Rating Prior	Rating Curr	PT
Community Health Systems, Inc.	CYH	$21.48	–	Neutral	$21.00
HCA, Inc.	HCA	$69.58	–	Buy	$102.00
LifePoint Health, Inc.	LPNT	$69.79	–	Neutral	$74.00
Tenet Healthcare Corp.	THC	$27.12	–	Buy	$30.00

Source: Bloomberg and Mizuho Securities USA

Key Points

It shouldn't be a surprise that the commonly used valuation methods yield strikingly different valuations, conclusions and implications for stock prices and, therefore, our ratings. Indeed, the most useful thing we found in the academic literature is that even people who study this issue for a living still can't derive a robust valuation model, i.e., one with a standard deviation less than about 25%. Random noise still accounts for a large part of equity valuation. Investors and analysts, however, should take heart: it is our work, coupled with exogenous whacks and boosts, that generates much of this random noise. In large part, we too are trying to reduce that random noise and improve the fit of the model by forcing multiple methods together to take into account not only the impact of the cap structure (EV/EBITDA less NCI), growth (PEG ratio) and FCF (FCF yields), but also the long-term value of the enterprise (DCF, where positive). We draw the following conclusions:

First, even a flawed EV/EBITDA less NCI still yields useful information about the enterprise and, when the EBITDA part is carefully defined across firms, a comparable metric. But, we show that the companies will often have the highest EV multiples for no reason other than that they have lots of debt. Second, PEG ratios are dynamic (growth-based) and address the use of FCF to buy back stock (EBITDA doesn't take into account higher interest). Third, FCF metrics essentially do the same thing as PEGs, but FCF moves around a whole lot more than earnings, which are more often the basis for guidance. That volatility makes FCF-based metrics less reliable, much to our chagrin. Finally, a DCF example shows that if we were to be really rigorous and value companies on the basis of DCFs, some might have negative implied stock prices because of their significant debt burdens. Therefore, we will blend our valuation methods to come up with a more balanced approach to valuing hospital stocks. And then when we have a positive DCF under 'reasonable' assumptions, we'll compare against that as a test for rigor.

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An Examination of Hospital Valuation Methodologies

This report is a companion piece to our HCA post-earnings report and it is therefore intended to be read in conjunction with and in support of our valuation methodology shift in that report. The topic is especially timely in the current market environment, we think, because two of the four acute care pure plays we cover are highly levered and the other two aren't. Two have decent FCF, a third is improving and the fourth's (CYH's) is uncertain. Valuation methods that compare these four, very different, companies to each other should, therefore, reflect these differences, but more than that, we think that the valuation method needs to clearly reward those companies with higher margins, faster growth, more FCF, more capacity to return FCF to shareholders without increasing the risk (associated with higher leverage ratios) and to reinvest in the business to further the virtuous cycle enabled by strong, consistent free cash flows.

Thus, we embarked on a modest study of the academic literature with respect to EV/EBITDA and other methods of valuation, putting the rusty Ph.D. to work. Despite the definitive text book works on the subject, most empirical studies we found weren't very encouraging. For example, one book on valuation by Andreas Schriener published in 2009[1] made the memorable point that empirical researchers had best calculate their multiples and metrics on their own[2]:

> Benninga & Sarig (1997) and Penman (2004) address a regularly ignored issue: the importance of using the same data definition for the calculation of multiples. That is, the value of a certain multiple depends on the use of historically rolling, trailing, or forward-looking data for a chosen value driver and the definition of the share base. Because different data definitions across multiples of comparable firms can make a multiples analysis worthless, Penman (2004) recommends users to work with raw data and to calculate multiples themselves, instead of adopting already calculated multiples from data providers without knowing the underlying data definition.

Even the academics understand what perhaps the market overlooks: garbage in, garbage out, i.e., be sure that everyone is using the same definition of the same metrics, which is a point we'll return to later.

We found many other interesting academic works on the subject of the accuracy of different multiple methodologies, including a very interesting one from the London School of Economics[3] available here: In that working paper, the authors noted that most prior work, even when using simplified metrics (forward earnings) and easily available data (IBES at the time) had resulted in very big standard deviation of the valuation error (approaching 30%). Our statistics may be a little rusty, but that's not

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[1] Https://books.google.com/books?id=gStKAAAAQBAJ&pg=PA9&lpg=PA9&dq=is+there+a+limit+to+the+accuracy+of+equity+valuation+using+multiples&source=bl&ots=j87GdKEI_y&sig=3xvdMEzJ4Iv8dhzmNUka7Webk9c&hl=en&sa=X&ved=0ahUKEwjQxuP42NTKAhXG1B4KHbDRCBoQ6AEIPDAE#v=onepage&q=%20Penman%202004&f=false

[2] Ibid, page 14

3 https://www.london.edu/faculty-and-research/academic-research/is-there-a-limit-to-the-accuracy-of-equity-valuation-using-multiples#.Vq5Ub7erSig

Version 2 was published at the LSE in 2013.

good. So the authors tried to improve upon that statistic by taking a portfolio approach. The punch line: their method improved the fit but still had pretty massive standard deviations and the authors concluded that the majority of the explanation for the size of the deviation was random noise. Even subsequent work hasn't improved on the fit very much, despite literally hundreds of papers and books on the subject of trying into inject rigor into valuing equities. At the end of the day, a big chunk of the movement in companies' stock prices over time is still explained as 'random noise.'

Well, folks, it's that random noise that we deal with every day. It's the random noise created by perception, rotation, exogenous whacks (a 'Hillary' tweet, trading caused by fund redemptions or even an analyst upgrade or downgrade), all those things that are impossible to measure because they are, for the most part, random – or at the very least, not predictable or easily crammed into a regression model.

So the academic literature ends up being of little help as we pursue additional rigor in our valuation work. But the search and time spent reading was not a waste of time (more knowledge never is): we were reassured to learn that there is a theoretical underpinning for EV/EBITDA and DCF (and other more complex) methods, and at least a not-terrible empirical fit for P/E and other simple multiple methodologies.

And we'll add our own postulate, based on years of observation, to the mix:

- Valuation methodologies only work well when:

    o The majority of investors strongly agree that the methodology is the right one to use; and

    o The companies being compared have very similar growth prospects <u>and</u> the ability to finance that growth.

Despite our disappointment in not finding rigor in the academic literature, that doesn't mean that we are absolved from the requirement that there be at least some attempt at rigor in our valuation work as Street analysts. To the contrary, rules for the sell-side require that we explain our valuation methodology in every published report on a company so that the investor can at least have the necessary information to make the determination as to whether the method is valid or not.

But we'd like to take this a bit farther: we would like our valuation work to better reflect the differences we see in the opportunity set for the companies we follow and that is the purpose of this report. That opportunity set is either limited or expanded by the ability of management to generate free cash flow and then growth in FCF, which in turn is dependent on the ability to generate higher margins on growing revenues, expand the business through capex and/or acquisition and take advantage of organic growth opportunities (market share gains as well as overall market growth). For us, the key has become FCF. Without it, there is no long-term growth, no permanent return of capital to the shareholders without putting future shareholders at the risk of

owning the liabilities, and not the assets, in bankruptcy. FCF, not some made-up concept of EBITDA or adjusted/core/fantasy EPS, is the real lifeblood of the firm.

How Valid is the EV/EBITDA Method Used for Hospital Stocks?

Hospital investors have long used EV/EBITDA (of some flavor) to value hospital stocks, but it wasn't always so. Indeed, in the mid-1990s, P/E ratios were the valuation metric/method of choice. This analyst knows: she was there and was one of the voices strenuously arguing for EV/EBITDA based valuations. Forgive her: she was young and occasionally foolish.

The point then, which does remain valid now, is that we needed to find a valuation method that was capital structure agnostic AND one that didn't suffer from the problems arising from definitional differences in EPS. EBITDA also had the advantage of being a reasonable proxy for unlevered cash flow (not free cash flow, but cash flow from operations). After all, credit agreements use some definition of EBITDA as the basis for many covenants and as the 'bond market' is generally viewed as being 'smarter' than the 'stock market,' it made sense to echo lenders' key metric in valuing equities of companies with substantial fixed assets and leverage.

The use of EV/EBITDA was also especially important in valuing the many post-acute and senior living (assisted and independent) companies that existed at the time. These companies were in the first stages of building their industries and capital needs were very high (it was a great time to be a health care investment banker), which of course depressed EPS growth. In addition, some of those companies chose to use REIT or third-party ownership of their facilities in order to gain an advantage in the race to build capacity. EV/EBITDAR became another metric that was widely used because it took yet another step toward capital-structure independence of the valuation metric.

Ah, the joys of being in an optimistic and expanding market in which it is more than 'okay' to ignore the risks associated with a lack of assets to protect the equity holder from downside when the firm fails are many and sweet. Unfortunately, nothing lasts forever – and the post-acute sector is the poster child, in our view, of what happens to equity holders when the capital structure is bottom-heavy. Investors should have learned from that time that they ignore the differences in capital structure in valuation at their own risk.

A Lesson from the Literature…Garbage in…

In the hospital sector, especially from 2003 onward, another flaw in the EV/EBITDA valuation metric became apparent. As patients stopped paying their bills, it became clear that revenue itself was an estimate, a made up number that heavily depended on the individual company's AR aging and write-off policies, and later on its uninsured discount policy. And with revenue and bad debt expense differences becoming bigger and more problematic, EBITDA itself became less reliable as a valid measure of the performance of the firm.

For example, in those early days of dealing with rising numbers of uninsured, some companies performed semi-annual look-backs to estimate the collection rates principally from uninsured accounts. HCA was one of those companies, for example, but it soon moved to quarterly look-backs. HMA, on the other hand, didn't look back at all and had some receivables on its books for years. But for all of the companies then, and to some extent now, bad debt was lagged. It was only a partial match for the uninsured revenue recorded in Net Patient Revenue in any given quarter. As a result, AR was overstated for some of these companies, as were earnings. The gulf between EBITDA and CFFO widened. One observation this analyst made at the time was that in 2007, HCA used $0.50 of working capital to create $1 in earnings. HMA used $1.50 in working capital to create $1 of earnings. HMA wrote off $200mm in AR before its lenders would loan it enough money to make a big acquisition (that ultimately failed). 'Nuff said.

- In short, if revenue is an estimate, then EBITDA is an estimate and the definitions aren't comparable across companies. How could be a valid valuation metric?

So the problem we analysts and investors tried to solve in the 1990s, i.e., finding a 'pure' and comparable denominator for our multiples, was not addressed through the use of EBITDA or, even worse, EBITDAR.

Does EV/EBITDA Really Level Cap Structure Differences…Or Magnify Them?

And then there's the theory of EV/EBITDA multiples itself…is it right to be capital structure agnostic in valuation? Is the metric even really capital structure agnostic and what do we mean by that?

These answers have become, in part due to experience as a 'full cap structure' analyst, very simple to answer. No, it isn't right to be capital structure agnostic. Look at a recent stock price chart for THC or CYH for 'proof.' And no, the metric isn't really even cap structure agnostic: only the denominator is.

Enterprise Value does increase with increases in both market cap and net debt. But as anyone who has seen hospital stocks in action since August 2015 can attest to, because the value of the net debt doesn't change, small changes in target multiple lead to bigger changes in equity value for companies with higher net leverage.

But turning this around, if we consider two companies with the same equity market value, but one has twice the debt of the other, then the EV of the lower debt company will be lower than the other by the difference in the amount of net debt. So the company with less debt is less 'valuable' than the company with more debt. Hmm.

Let's follow this further: suppose that the first company has less net debt because it uses both its income statement and balance sheet to create enough FCF to pay down said debt. The other company doesn't have the FCF to pay down that debt. Should it have a higher 'value of the enterprise?' Let's get a little more specific: suppose now

that we are dealing with hospital companies. For the record, we define EBITDA less as cash revenue less SW&B, less supplies, less other operating expense, plus equity in unconsolidated JVs less non-controlling interest. However, even though CYH adds back stock-based comp to its EBITDA on a guidance basis, we don't add it back in our estimate. Let's look at EV, EBITDA less NCI and all metrics on a per-adjusted-admit (per AA) basis:

Exhibit 1: Comparison of Per-Adjusted-Admission Metrics

| 2015 Metrics | Per Adjusted Admission Latest LTM | | | |
$ in Millions, Mizuho Securities Estimates	HCA	THC	LPNT	CYH
Revenue	$ 12,706.31	$ 10,677	$ 8,321	$ 9,560
EBITDA	$ 2,535	$ 1,364	$ 1,133	$ 1,400
EBITDA Margin				
Growth rate				
EBITDA Less Minority Interest	$ 2,353	$ 1,282	$ 1,112	$ 1,383
EBITDA Less MI Margin				
Growth rate				
Current Share Price	$ 69.79	$ 27.12	$ 69.79	$ 21.48
Net Debt at end-of-period, ending cash	9,526	8,565	2,700	8,218
Market Cap at current price	$ 9,225	$ 1,596	$ 5,643	$ 1,215
NCI				
EV at current price EXCLUDING NCI	$ 18,751	$ 10,161	$ 8,344	$ 9,433
EV excluding NCI/EBITDA less NCI @ current price	8.0x	8.3x	7.4x	7.0x

Sources: Company report, MSUSA estimates

We make several observations, but under all of them is the assumption that today's market is efficient (which may be too robust an assumption):

1. Only HCA has a balanced capital structure on a per AA basis;

2. HCA's per AA EBITDA less NCI is nearly 2x that of each of THC's and CYH's and more than 2x that of LPNT's, just to give a sense of PROFITABILITY, NOT SIZE.

3. **HCA's current EV/EBITDA less NCI multiple is below THC's** as of the close on 1/29/16.

4. **How can that make sense?**

    a. **Because the company with the highest level of net debt per AA has the highest multiple, i.e., THC.** Not the fastest grower, not the highest margin company, and certainly not the one with the most FCF. Just the one with the highest level of net debt per AA.

Now we'll take a more traditional look at three methods: EV/EBITDA less NCI; P/E & PEG ratios; and P/FCF & FCF yield.

Exhibit 2: Do These Multiples Make Sense?

2015 Metrics $ in Millions, Mizuho Securities Estimates	HCA Actual	THC Est	LPNT Est	CYH Est
Revenue	$ 39,678	$ 18,247	$ 5,205	$ 19,656
EBITDA	$ 7,915	$ 2,259	$ 1,133	$ 2,865
EBITDA Margin	19.9%	12.4%	21.8%	14.6%
EBITDA Less Minority Interest	$ 7,348	$ 2,085	$ 693	$ 2,763
EBITDA Less MI Margin	18.5%	11.4%	13.3%	14.1%
Current Share Price	$ 67.51	$ 27.12	$ 69.79	$ 21.48
Net Debt at end-of-period, ending cash	29,747	14,503	1,893	16,810
Market Cap at current price	$ 28,808	$ 2,703	$ 3,434	$ 2,486
NCI				
EV at current price EXCLUDING NCI	$ 58,555	$ 17,206	$ 5,327	$ 19,296
EV excluding NCI/EBITDA less NCI @ current price	8.0x	8.3x	7.4x	7.0x
EPS	**$5.56**	**$2.00**	**$4.05**	**$3.43**
YOY % Change	**18%**	**19%**	**21%**	**9%**
P/E at current price	**12.1**	**13.6**	**17.2**	**6.3**
PEG	**0.67x**	**0.72x**	**0.82x**	**0.71x**
FCF per share	**$4.37**	**$1.06**	**$8.80**	**$2.08**
P/FCF per share at current price	15.5	25.6	7.9	10.3
FCF yield at current price	**6.5%**	**3.9%**	**12.6%**	**9.7%**

So now let's look at the four companies on a 'total,' i.e., not per AA, basis.

In summary, here are the rankings from highest to lowest by method:

- EV/EBITDA less NCI: THC, HCA, LPNT, CYH

- PEG: LPNT, THC, CYH, HCA

- P/FCF: THC, HCA, CYH, LPNT

> **How can the best company, with the highest margins, strong FCF and most profit per adjusted admit, not be the highest valued company by any of the three methods? (Answer: the market is wrong, perhaps?)**

- Note that the EBITDA comparison we made in the prior instance is not valid as this is total, not per AA (which normalizes and makes the metrics comparable). Still HCA has a LOT of EBITDA and a lot of margin.

- From a P/E perspective, CYH would appear to be the cheapest stock and LPNT would be the most expensive. But P/E's are supposed to be indicative of earnings growth, so we look at PEGs.

- From a PEG perspective using trailing YOY growth and not forward projections, LPNT is still the most fully valued, but HCA is the cheapest. It even trades at discount, albeit a small one, to CYH. Tell us how that one makes any kind of sense.

- Interestingly, THC and CYH, from a PEG perspective, trade right on top of each other, but not from an EV/EBITDA less NCI basis.

- Finally, looking at the EV/EBITDA multiples, THC carries the highest value and CYH the lowest. While our sense of the underlying risks suggests that CYH should have the lowest multiple, it is not clear why THC should have the highest beyond the mathematical answer that it has more debt.

So if the market thinks that THC should trade at 8.3x because its new board will fix some things and accelerate/stabilize growth and improve margins, why wouldn't it set that target for HCA, who is still growing and already has higher margins, better cash flows and is still improving both? HCA would be at $73 at 8.3x. LPNT, another nicely FCF positive company, would be at $83 at that multiple and CYH, which has struggled to generate positive FCF during 2015 YTD, would trade at a whopping $53 per share at 8.3x 2015 EBITDA less NCI. As we've observed before, the stocks get whipped around, not because margins are better or FCF is better or market share is growing, but because changes in multiple accrue only to the equity in this calculation.

And by the way, we think HCA should trade at a premium to all because it generates more profit per AA; more FCF in total; has better markets and fewer risks than everyone else. But because it has a balanced capital structure, we have to assign a 'really high' EV multiple to make the rest of the valuation metrics look reasonable.

Why Would EV/EBITDA be Flawed?
EV/EBITDA takes a snapshot in time of the capital structure. Even here there are differences in calculation of the metric that may matter:

- Do we use end of period estimates for cash and debt?
- Do we use current period actuals for cash and debt for the current multiple and forward estimates for the target multiple or the same actuals for both?
- Do we use the same definition of EBITDA (never mind whether we subtract NCI or not) across all companies or do we use the guidance-basis for all companies (because such definitions are never manipulated to present the best case scenario, right?) irrespective of whether the definitions are identical?

We also have concerns about the formula for EV itself when used in the context of valuing companies relative to each other:

- Is it correct to accept the implied use of cash only to reduce debt? Obviously, the formula for EV uses net debt, i.e., debt at a point in time minus cash at a point in time, not necessary at the current date. Said differently, does using cash to reduce debt only really appropriately value the future growth of the enterprise? If there is no free cash flow (or negative) shouldn't the valuation methodology take that into account? There are, we count, five things that a firm can do with its free cash flow:
    - Nothing, i.e., keep it as cash (perhaps to build a future war chest);
    - Pay a dividend;
    - Repurchase shares;
    - Reinvest in the firm through capex or acquisition of assets; and
    - Repay debt.

    Shouldn't the valuation methodology we use incorporate the value created from use of FCF on both an absolute and relative basis? Shouldn't it make a difference to our valuation thoughts (i.e., does the resulting multiple tell us that the stock is cheap or dear) if a company has copious amounts of FCF or if it doesn't? We think it should.

These challenges with the EV/EBITDA multiple valuation methodology obviously concern us. We know that the market needs a short cut or approximation to quickly assess relative value and that there are challenges with P/E, PEG and FCF-based metrics as well.

What about using PE/G or PEG Ratios?

In theory, at fair value a stock's P/E should be equal to its growth rate under most circumstances. If growth is accelerating from year to year, a premium to growth might be appropriate and if growth is decelerating, a discount would be applied.

For all of the hospitals, however, 2015 was higher than 2014. So in this example, we'll look backwards as it allows us to deal with either visible or already reported results for most of the year. That is, we'll use the EPS and growth rates in Exhibit 2 above. As we expect our forward growth rates for each of the companies to be around the same as the 2014-2015 growth, a PEG equal to 1.0x would seem reasonable.

For the four stocks, setting the PEG equal to one (i.e., equal to the 2015 EPS growth rate) would yield stock prices equal to $100 for HCA; $38 for THC, $85 for LPNT and $31 for CYH.

By the way, that's nearly 48% upside for HCA; 40% upside for THC, 22% upside for LPNT and 44% upside for CYH.

But again, purely using a PEG ratio doesn't account for the risk of the heavy leverage in the capital structure except to the extent that after-tax interest expense leads to lower EPS production per unit of cash revenue (lower net margins).

P/FCF and FCF Yields

Once again, these are static metrics, but at least they directly compare valuation on the basis of the one metric that seems to us to have the least amount of variance in it. We define FCF as CFFO (not on an adjusted, not on a 'core,' and not on an 'oh how we wish we didn't pay that fine or have that legal expense' basis) as reported less capex as reported less payments to minority holders. We note that for CYH, we include 'changes in other assets' as capex to conform its definition of capex with those of its peers.

On this basis, LPNT looks to be the most attractive (highest FCF yield) and THC the least. CYH is the next most attractive with a 9.7% FCF yield and HCA is so-so with a 6.5% FCF.

But now let's consider FCF growth. From 2014 to 2015, the FCF per share growth rates for the companies were: HCA: 7.4%; THC: NMF (went from ($2.97) to a projected positive $1.06); LPNT: projected increase of 100% due to a tax reversal; and CYH, a projected increase of 59%.

Once again, the static nature of the metric doesn't convey the strengths of the underlying trend. By that argument, HCA should be the least 'valuable' because its FCF growth is the lowest among the peers, which occurs in turn because it didn't have negative FCF historically like THC, for example, and isn't a turnaround. And that's interesting: the P/FCF metrics actually is more telling than the FCF yield in some sense: it makes more sense to us that the company with the biggest expected turnaround in FCF should have the highest FCF multiple in the group

So What Method(s) Make Sense?

When all else fails, blend the methods or do a DCF. Even so, the analyst has to decide what target multiple makes sense for each methodology. PEGs are easy: growth should be about stable so we'll set it 1.0x for all the companies. EV is harder. For example, we're willing to 9.5x 2016E for HCA because we strongly suspect that HCA will outperform its guidance and because we expect the company to use its FCF to buy back shares and create more growth. And because its balanced capital structure is both efficient and flexible. In other words, we create the 'random noise' in building our case for a premium multiple. For THC, we set our target at 7.9x ($30) 2016E (8.4x 2015E) because it is now an event-driven company with a new Board that could/should create shareholder value.

Interestingly, the DCF for HCA with 1% terminal growth and using the Bloomberg WACC estimate of 4.9% yields a $105 stock price. That's about the same as a PEG of 1.0x, but it would imply a 10x multiple on 2015 and a 9.5x EV/EBITDA less NCI multiple on 2016. The challenge with doing DCF analysis for the other three companies is that their FCFs are less predictable and less visible than HCA's. The calculation is also highly sensitive to estimates for the terminal growth rate and WACC.

For example, for THC, a 1% terminal growth rate and a 4.2% WACC, comparable to our estimates we used for HCA, yields a negative value of the firm. A 2.7% terminal growth rate is required for the DCF to be greater than zero. It takes that much growth in FCF over time to offset the level of debt.

To interpret Exhibit 3, it is helpful to understand that our PT methodology was mostly based on ranking the EV/EBITDA based on the risk factors of the companies versus their opportunity sets. In addition, we raised concerns about the ability of the hospital companies to earn their cost of capital. Only HCA has done more than that (current ROIC is over 15% and is under-reported on Bloomberg at 13.27%), and as of 3Q15, LPNT, CYH and THC had not. That too informed our ranking of multiples. We argue that the top line ranking presented below for EV/EBITDA less NCI for 2016E makes the most sense. HCA is the best company, in our view, and CYH is the most challenged. THC has a catalyst, LPNT doesn't. See random noise drives stock prices, especially when it takes the shape of 'analyst's assessment, intuition or predictions for future continued performance in the patterns of the past…or not.'

Exhibit 3: Do MSUSA's PTs Make Sense?

Comparison of Valuation Methodologies	HCA	THC	LPNT	CYH
EV/EBITDA less NCI target on 2016E	9.5x	8.0x	7.9x	6.8x
Implied stock price	$ 104.00	$ 33.00	$ 74.00	$ 21.00
2016E PEG target	1.0x	1.0x	1.0x	NMF*
Implied stock price	$ 104.00	$ 38.00	$ 85.05	NMF**
2016E P/FCF target or FCF yield target	5%	10%	8%	10%
Implied stock price	$ 97.60	$ 18.87	$ 74.00	$ 21.00
Blended Price	$ 101.87	$ 29.96	$ 77.68	$ 21.00

* Our 2016E EPS for CYH is essentially flat with 2015E at $3.47 vs $3.43.

Source: Company reports and MSUSA estimates

Concluding Thoughts

It shouldn't be a surprise that the commonly used valuation methods yield strikingly different valuations/conclusions/implications for stock prices and, therefore, our ratings. However, the examination was, we think still very useful, at least for us.

First, it is clear that even though EV/EBITDA less NCI is flawed, it still yields useful valuation information about the enterprise and, when the EBITDA part is carefully defined across firms, a comparable metric.

Second, PEG ratios are informative too, and specifically address the use of FCF to buy back stock (EPS is much more sensitive to the NET impact of changes in share

count than EBITDA, which doesn't take into account the impact of taking on debt to buy back stock).

Third, FCF metrics essentially do the same thing as PEG ratios, but explicitly operate on FCF estimates. But FCF moves around a whole lot more than earnings. Can that be because EBITDA and EPS are carefully managed due to their being the subject of company guidance? That volatility (our estimate of $8.80 per share for LPNT in 2015 drops to $6.01 in 2016E without the tax benefit) makes FCF-based metrics less reliable, much to our chagrin.

And finally, the DCF example (see the HCA and THC DCFs at the end of this report) shows that if we were to be really rigorous and value companies on the basis of DCFs, some might have negative implied stock prices because of their significant debt burdens.

So, going forward, we'll blend our valuation methods to come up with a more balanced approach to valuing hospital stocks. And then when we have a positive DCF under 'reasonable' assumptions, we'll compare against that as a test for rigor.

Exhibit 4: HCA DCF

Discounted Cash Flow Model						
		2014A	2015E	2016E	2017E	2018E
Free Cash Flow		1,830	1,864	1,979	2,771	3,199
Combined FCF		1,830	1,864	1,979	2,771	85,607
Long term growth rate			1.00%			
DCF Calculation						
Value of the firm	$	74,837				
Value of debt	$	29,935				
Value of NOL's	$	0				
Value of the equity	$	**44,902**				
Shares Outstanding		*427*	*as of 2015A*			
Equity value per share	$	**105.23**				
WACC						
		Weighted Cost of Equity			3.9%	
		After tax debt rate			1.0%	
WACC, discount rate					**4.900%**	

Source: Company reports, MSUSA estimates, Bloomberg

Exhibit 5: THC DCF

Discounted Cash Flow Model						
		2014A	2015E	2016E	2017E	2018E
Free Cash Flow		($298)	$106	$152	200	250
Combined FCF		($298)	$106	$152	200	8,141
Long term growth rate			1.00%			
DCF Calculation						
Value of the firm	$	6,742				
Value of debt	$	17,243				
Value of NOL's	$	0				
Value of the equity	$	**(10,500)**				
Shares Outstanding		*100*	*as of 2015A*			
Equity value per share	$	**(105.49)**				
WACC						
		Weighted Cost of Equity			2.4%	
		After tax debt rate			1.8%	
WACC, discount rate					**4.200%**	

Sources: Company reports, MSUSA estimates, Bloomberg

Price Target Calculation and Key Risks

Community Health Systems, Inc.

Our valuation of $21 is based on 6.8x our 2016E EV/EBITDA less NCI, reflecting likely volume and mix pressures, coupled with high leverage as well as the remaining CVR risk.. Risks to valuation include pricing pressure from government and private payers, continued soft volume growth, additional labor cost pressures, further deterioration of bad debt, integration of HMA and turnaround of HMA, physician losses, competition for acquisitions, the pending spin-off and a highly levered balance sheet.

HCA, Inc.

Our valuation of $102 is based on 9.0x our 2016E EV/EBITDA less NCI, a P/E of 16x our $6.45 2016E EPS, for a PEG of 1.0x, blended with our target FCF yield of 5%. The average of these methods yields our $102 PT, which is also consistent with our $105 value from DCF model using a 4.9% WACC (per Bloomberg) and a 1% terminal growth rate. We believe HCA should trade at the high-end of historical EV/EBITDA trends from 2000-2007 given its clear leadership in FCF generation and the continuing growth opportunities that FCF supports, coupled with the potential EPS accretion from the recently announced $3B share repurchase.

Risks to valuation include pricing pressure from government and private payors, continued soft volume growth, further deterioration of bad debt, competition for acquisitions, increasing labor costs and labor market shortages, HITECH payment risk, a levered balance sheet and the implementation of all of the provisions of the ACA.

LifePoint Health, Inc.

Our valuation of $74 is based on 7.0x our 2016E EV/EBITDA less NCI, reflecting likely inpatient volume pressures, the dilutive impact of acquisitions in the near term and balanced by its lightly levered balance sheet and FCF. Risks to valuation include pricing pressure from government and private payors, continued soft volume growth, further deterioration of bad debt and competition for acquisitions, excess dilution from acquisitions due to slower than expected improvement in margins and execution risk.

Tenet Healthcare Corp.

Our target valuation of $30 is based on 7.9x our 2016E EV/EBITDA less NCI, reflecting likely positive volume comps and growth prospects in 2016 & announcement of asset sales needed to achieve guidance and fund share repurchases, balanced by THC's high leverage and positive, but still modest FCF. Risks to valuation include pricing pressure from government and private payors, continued soft volume growth, HITECH payment risk, execution risk (including the closing of several transactions in a timely fashion) and further deterioration of bad debt. Further risks may arise from both criminal and civil investigations of the company and/or its hospitals.

IMPORTANT DISCLOSURES

The disclosures for the subject companies of this report as well as the disclosures for Mizuho Securities USA Inc. entire coverage universe can be found at https://msusa.bluematrix.com/sellside/Disclosures.action or obtained by contacting EQSupervisoryAnalystUS@us.mizuho-sc.com or via postal mail at Equity Research Editorial Department, Mizuho Securities USA Inc., 320 Park Avenue, 12th Floor, New York NY, 10022.

Ownership Disclosures and Material Conflicts of Interest or Position as Officer or Director

As of the date of this report, the research analyst listed on the cover page of this report or household member beneficially owns or has a financial interest in No of the Community Health Systems, Inc.HCA, Inc.LifePoint Health, Inc.Tenet Healthcare Corp..

Receipt of Compensation

Mizuho Securities USA Inc. and or its affiliates makes a market in the following securities: Community Health Systems, Inc., HCA, Inc., LifePoint Health, Inc. and Tenet Healthcare Corp.

Mizuho Securities USA Inc. and or its affiliates has received compensation for investment banking services for HCA, Inc. in the past 12 months.

Mizuho Securities USA Inc. and or its affiliates expects to receive or intends to seek compensation for investment banking services for HCA, Inc. in the next 3 months.

Mizuho Securities USA Inc. and or its affiliates has managed or co-managed a public offering of securities for HCA, Inc. in the past 12 months.
The compensation of the research analyst writing this report, in whole or part, is based on MSUSA's annual revenue and earnings and is not directly related to any specific investment banking compensation. MSUSA's internal policies and procedures prohibit research analysts from receiving compensation from companies covered in the research reports.

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I, Sheryl R. Skolnick, hereby certify that the views expressed in this research report accurately reflect my personal views about any and all the subject companies. No part of my compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this research report.

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Buy:	Stocks for which the anticipated share price appreciation exceeds 10%.
Neutral:	Stocks for which the anticipated share price appreciation is within 10% of the share price.
Underperform:	Stocks for which the anticipated share price falls by 10% or more.
RS:	Rating Suspended - rating and price objective temporarily suspended.
NR:	No Rating - not covered, and therefore not assigned a rating.

Rating Distribution

(As of 1/29)	% of coverage	IB service past 12 mo
Buy (Buy)	50.28%	36.26%
Hold (Neutral)	49.17%	24.72%
Sell (Underperform)	0.55%	0.00%

For disclosure purposes only (NYSE and FINRA ratings distribution requirements), our Buy, Neutral and Underperform ratings are displayed as Buy, Hold and Sell, respectively.

Rating and Price Target History for: Community Health Systems, Inc. (CYH) as of 01-28-2016

| 02/22/13 N:$41 | 05/01/13 N:$48 | 06/20/13 N:$50 | 07/19/13 N:$45 | 08/06/13 N:$48 | 01/29/14 N:$45 | 02/19/14 N:$44 | 03/18/14 N:$38 | 06/20/14 N:$47 | 08/01/14 N:$48 | 11/04/14 N:$53 |

| 01/27/15 N:$50 | 03/25/15 N:$52 | 06/26/15 B:$83.9 | 08/24/15 B:$81.8 | 09/07/15 B:$77 | 10/21/15 N:$34 | 11/03/15 N:$30 | 12/15/15 N:$27.7 | 01/18/16 N:$21 |

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Rating and Price Target History for: HCA, Inc. (HCA) as of 01-28-2016

| 07/12/13 N:$40 | 08/01/13 N:$42 | 09/18/13 B:$51 | 10/17/13 B:$55 | 04/29/14 B:$57 | 06/03/14 B:$60 | 07/29/14 B:$75 | 10/28/14 B:$78 | 01/12/15 B:$85 | 03/25/15 B:$89 | 06/26/15 B:$100 |

| 08/14/15 B:$103 | 10/14/15 B:$86 | 10/22/15 B:$80 |

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Rating and Price Target History for: LifePoint Health, Inc. (LPNT) as of 01-28-2016

| 02/15/13 N:$45 | 07/26/13 N:$49 | 12/17/13 N:$54 | 04/25/14 N:$58 | 05/30/14 B:$72 | 07/25/14 B:$80 | 01/27/15 B:$76 | 03/25/15 N:$76.6 | 06/26/15 B:$95.71 | 08/03/15 B:$93 | 10/22/15 N:$74 |

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Rating and Price Target History for: Tenet Healthcare Corp. (THC) as of 01-28-2016

02/26/13 B:$41	05/03/13 B:$51	08/06/13 B:$49	11/13/13 B:$52	06/11/14 B:$59	08/05/14 B:$64	01/27/15 B:$49	03/25/15 B:$58	06/26/15 B:$68.2	10/22/15 N:$30	12/01/15 N:$34

12/15/15 N:$30	01/19/16 B:$30

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