



**DIXON HUGHES** PLLC

Certified Public Accountants and Advisors

## INDEPENDENT LIVING PENETRATION RATES: ONE INDICATOR OF MARKET DEMAND

Dixon Hughes PLLC  
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With feasibility and marketing firms calculating penetration rates based on different methodologies, varying terminology and subjective assumptions, how can various stakeholders get comfortable regarding acceptable penetration rates for a market? A penetration rate is only one indicator of market demand for independent living in a continuing care retirement community (CCRC). Other factors including velocity of pre-sales, marketing efforts of the provider, occupancy levels of comparable communities, the number of planned comparable units in the market, reputation of the provider and education of the consumer regarding a senior housing product should also be considered when estimating the depth of the market for a project. If this is the case, then why do so many stakeholders rely on independent living penetration rates as one of the key indicators of market depth?

The analysis of penetration rates in this document represents the approach, methodologies and interpretations of Dixon Hughes PLLC, a leading provider in healthcare advisory services, in an attempt to understand and define the thinking and process behind this calculation.

These methodologies are generally used in a feasibility study to assess events occurring as part of the permanent financing process when a product has already been programmed and designed. When a project is in the development stage, other techniques in addition to these calculations are used to determine unit mix, pricing, services and programming. Again, a penetration rate is only one indicator of a project's potential for success and should be used in conjunction with a number of other factors.

### **What is a penetration rate?**

Penetration rates help measure the degree to which a market is either underserved or saturated. Simply put, what percentage of the qualified market must be captured to achieve stabilized occupancy? Different types of penetration rates give insights into various stages of a project's development.

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Dixon Hughes typically calculates three penetration rates to assist in determining market demand for a project:

- Project Penetration Rate
- Net Market Penetration Rate
- Gross Market Penetration Rate

The project penetration rate and net market penetration rate evaluate market demand upon entry into the market place (i.e., the penetration year) whereas the gross market penetration rate evaluates the impact of planned units over a period of time. As penetration rates increase, units may become more difficult to fill. However, higher penetration rates may not always be an indication of the difficulty in achieving expected occupancy levels. Some markets may have a higher acceptance level for senior housing and may support higher penetration rates. The occupancy of existing communities in the market can be a key indicator of determining the acceptance of a product and the depth of a market. Existing communities that are fully occupied with active waiting lists may be an indication that the market is underserved. Alternately, low occupancy at existing communities might indicate that market supply exceeds demand. Other factors may exist, including the possibility that available product and service offerings do not meet the expectations of consumers in the market. Qualitative market research, such as direct mail surveys and focus groups, can help providers gain a better understanding of the market's acceptance of different types of senior housing products or service offerings.

Dixon Hughes has compiled a database of approximately 90 senior housing projects financed since 2000 that benchmarks important criteria, including penetration rates.

## **What are the basic components of a penetration rate calculation?**

There are five basic components to consider when calculating an independent living penetration rate:

- Primary market area definition
- Percentage of seniors originating from the primary market area
- Number of existing and planned units in the primary market area
- Number of units available due to attrition
- Age and income qualification

### ***Primary Market Area Definition***

The primary market area (PMA) for senior living services is typically defined as the geographic area from which the majority of prospective residents reside prior to assuming occupancy at a project. The PMA for a project is typically determined by the origin of its depositors, the historical experience of the provider (if applicable) and/or the experience of existing providers in the PMA.

### ***Percent of Seniors Originating from the PMA***

Once the PMA is determined, the percentage draw from the PMA is applied in order to estimate how many age- and income-qualified households would originate from the PMA versus other areas. This number can be subjective and can vary based on the firm and/or the individual performing the calculation. Based on the Dixon Hughes benchmark database, the draw from the PMA typically ranges from 70 to 80 percent. The percentage draw from the PMA can be lower if a project is located in an area considered to be a retirement destination.

### ***Number of Existing and Planned Units in the PMA***

Determining the number of existing and planned units to include in a penetration rate is one of the more subjective components affecting the calculation. While there may be a number of existing and planned units in the PMA, it is important to consider which units are actually comparable to a project. Do the units have a similar pricing structure and income qualification? What are the product and service offerings at the community? Dixon Hughes typically uses a conservative approach and considers all units with similar services to be competing for the same pool of age- and income-qualified households.

In addition, it is important to know when planned comparable units are entering the market – as either new communities or expansions to existing communities – and at what stage those communities are in the planning process (i.e., zoning approvals, priority campaign, pre-sales, etc.). Determining when new comparable units may become available is critical because it can impact pre-sales and ultimate fill-up of a project if a significant number of units are planned to open at the same time.

### ***Number of Units Available Due to Attrition***

In order to calculate the net market penetration rate, the number of units to be absorbed in a given year must be determined. Available units could enter the marketplace via planned communities and through the turnover of existing

units in the PMA. Therefore, it is necessary to take into consideration the number of existing units in the PMA that would be vacated due to attrition. According to the American Seniors Housing Association's (ASHA) *The State of Seniors Housing 2006*, the annual resident turnover for rental and non-rental CCRC independent living units is 23.0 percent and 11.2 percent, respectively.

### **Age and Income Qualification**

In order to qualify for residency at a senior living community, a prospective resident must meet a particular age requirement – generally 62 years of age – and demonstrate sufficient financial resources to pay the initial entrance fee, required monthly service fees and other expenses not provided by a project. Accordingly, management typically establishes certain criteria to identify prospective residents who would be eligible to reside in an independent living unit at the project (i.e., annual income of approximately 1.5 to 1.7 times the annualized monthly service fee at the project). For the purpose of quantifying the number of age-qualified households in the PMA, management of a project typically assumes that households age 75 or older are most likely to move to an independent living unit at a project. According to AAHSA's *Continuing Care Retirement Communities: 2005 Profile, 1<sup>st</sup> edition*, the average age of residents moving into independent living at a CCRC was 79 years old.

### **How are industry penetration rates calculated?**

While there are multiple penetration rates, each one has a different purpose and set of components. They all intend to paint a picture of the estimated market demand for independent living units. Although terminology varies within the industry, we have found the methodologies applied for feasibility studies to be generally consistent.

We have analyzed the penetration rate methodologies of BB&T Capital Markets (BB&T), Fitch Ratings (Fitch), the National Investment Center for the Seniors Housing and Care Industry (NIC) and Ziegler Capital Markets Group (Ziegler). BB&T, Fitch and Ziegler calculate penetration rates using similar methodologies. BB&T refers to its calculations as “project saturation rates” and “market saturation rates.” Fitch and

Ziegler refer to their calculations as “penetration rates” and “saturation rates.”

Regardless of the industry term used to describe these calculations, project penetration rates show a **project's** inventory of units relative to market depth, whereas market penetration and saturation rates show the **market's** total inventory of units relative to market depth. These calculations assume that all communities in the market are competing for the same or similar pool of age- and income-qualified households.

The penetration rate methodology utilized by NIC differs from BB&T, Fitch and Ziegler. NIC assesses market demand in an aggregate fashion, dividing the total number of independent living units in the market by the total number of households age 75 and older in that market. NIC does not consider an income qualification; the calculation is simply a measure of overall market depth.

The methodologies utilized by Dixon Hughes are similar to BB&T, Fitch and Ziegler for project penetration rates and gross market penetration rates. For all three penetration rates (project penetration rates, net market penetration rates and gross market penetration rates), Dixon Hughes adjusts the total independent living units at a project and/or comparable units to reflect assumptions regarding occupancy, the percentage of units expected to be filled from the PMA, and the percentage of units expected to be filled by residents over the age of 75.

The *project penetration rate*, as calculated by Dixon Hughes, is similar to BB&T's “project penetration rate” and Fitch's “penetration rate.” However, Dixon Hughes' methodology varies slightly from Fitch and BB&T in that only planned project units, not existing units at a project, are included in the calculation.

The *net market penetration rate* calculated by Dixon Hughes is similar to Ziegler's “penetration rate.”

The *gross market penetration rate* calculated by Dixon Hughes is similar to BB&T's “market penetration rate” and Fitch's and Ziegler's “saturation rate.”

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## How does Dixon Hughes c

For purposes of demonstrating the calculation methodologies of the three penetration rates utilized by Dixon Hughes, the following assumptions are used.

Parameter	Assumptions
Number of planned units at the project	150
Existing inventory of available comparable units	500
Number of existing entrance fee units	350
Number of existing rental units	150
Number of planned units at comparable communities	75
Stabilized occupancy percentage at the project	95%
Percent of units to be occupied from the PMA	75%
Percent of units to be occupied by age 75 and older	90%
Number of age- and income-qualified households – Current Year – 20xx	3,000
Number of age- and income-qualified households – Penetration Year <sup>(1)</sup> – 20yy	3,250
Number of age- and income-qualified households – Stabilized Year <sup>(2)</sup> – 20zz	3,500

Notes: (1) The penetration year is the year the project is planned to open or the first full year of occupancy.  
(2) The stabilized year is the year the project is expected to reach stabilized occupancy.

### Project Penetration Rate

The project penetration rate is the percentage of age- and income-qualified households in the PMA the **project** would need to capture in order to achieve stabilized occupancy in the year of opening. The project penetration rate is calculated by dividing the number of independent living units at the project by the number of age- and income-qualified households in the PMA. Seniors currently living in competitive independent living units in the PMA are subtracted from the pool of age- and income-qualified households. Calculations are based on demographics projected or interpolated for the year the project is expected to be available for occupancy. The following table presents an example of a project penetration rate calculation.

Table I	
Project Penetration Rate Example – 20yy	
	Age 75 and Above
Planned units at the project	150
Percentage of units to be occupied from the PMA	75%
Planned units to be occupied from the PMA	113
Percentage of units to be occupied from by age 75 and older	90%
Planned units to be occupied from the PMA by age 75 and older	102
<b>Total units at the project to be occupied at 95% occupancy (a)</b>	<b>97</b>
Number of age- and income-qualified households	3,250
Less: Existing inventory of available comparable units <sup>(1)</sup>	(475)
<b>Net number of age- and income-qualified households (b)</b>	<b>2,775</b>
<b>Project Penetration Rate (a/b)</b>	<b>3.5%</b>

Notes: (1) Reflects the 500 existing comparable units in the PMA, assuming a 95% occupancy rate (475 units).

### Net Market Penetration Rate

The net market penetration rate is the percentage of age- and income-qualified households in the PMA that the **available units in the market** would need to capture in order for the entire market to achieve stabilized occupancy in the year of opening. Net market penetration is calculated by dividing the number of available independent living units in the PMA by the number of age- and income-qualified households in the PMA. Available units would include planned units of the project, proposed units at other communities and units becoming available due to attrition. This calculation is particularly significant

## Calculate penetration rates?

when more than one project is entering the market during the same timeframe. Calculations are based on demographics interpolated for the year the project would be available for occupancy. The following table presents an example of a net market penetration rate calculation.

	<b>Age 75 and Above</b>
Planned units in the PMA:	
The project	150
Other planned units	75
Total planned units	225
Percent of planned units to be occupied by age 75 and older	90%
Total planned units to be occupied by age 75 and older	203
Total planned units to be occupied at 95% occupancy	192
Total existing units available due to attrition <sup>(1)</sup>	70
Total units to be occupied	262
Percent of units to be occupied from the PMA	75%
<b>Total units to be occupied from the PMA (a)</b>	<b>197</b>
Estimated number of age and income qualified households	3,250
Less: Existing inventory of available comparable units <sup>(2)</sup>	475
<b>Estimated number of age- and income-qualified households (b)</b>	<b>2,775</b>
<b>Net Market Penetration Rate (a/b)</b>	<b>7.1%</b>
Notes: (1) Reflects the 350 existing entrance fee units in the PMA at 95% occupancy, assuming 11.2% attrition (37 units) and the 150 rental units in the PMA at 95% occupancy, assuming 23.0% attrition (33 units), for a total of 70 units available due to attrition. (Source: ASHA State of Seniors Housing 2006).	
(2) Reflects the 500 existing comparable units in the PMA, assuming a 95% occupancy rate (475 units).	

### Gross Market Penetration Rate

The gross market penetration rate (sometimes referred to as a market saturation rate) is the percentage of age- and income-qualified households in the PMA that the **total market** would need to capture for the entire market to achieve stabilized occupancy. Market penetration is calculated by dividing the total number of existing and planned independent living units in the PMA by the number of age- and income-qualified households in the PMA. Calculations are based on demographics for the current year and projected or interpolated for the year the project is expected to achieve stabilized occupancy in order to show the rate of change between years. The following table presents an example of a gross market penetration rate.

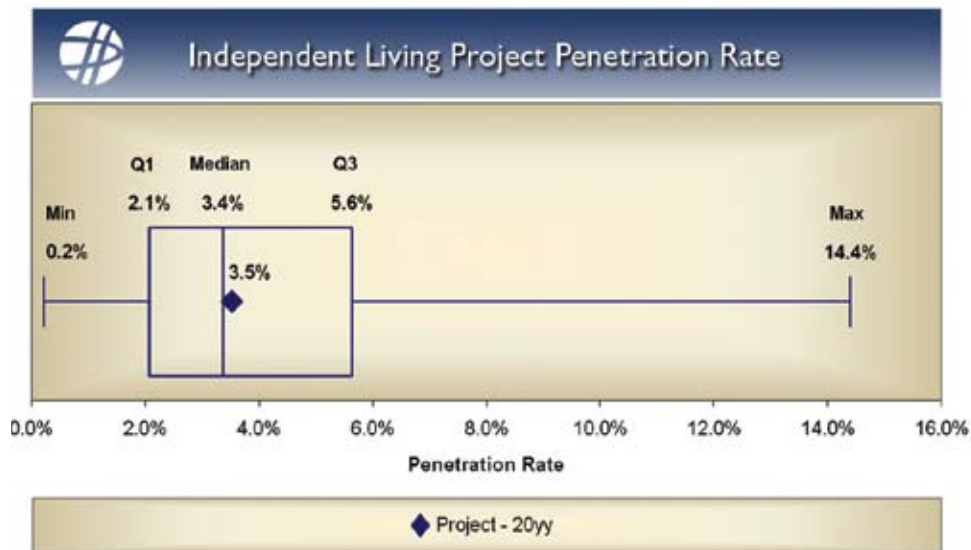
	<b>20xx</b>	<b>20zz</b>
Market inventory of retirement communities:		
The project	-	150
Existing units in the PMA	500	500
Other planned units in the PMA	-	75
Total units available in the PMA	500	725
Percent of units to be occupied from the PMA	75%	75%
Total units to be occupied from the PMA	375	544
<b>Total number of units to be occupied within the PMA at 95% occupancy (a)</b>	<b>356</b>	<b>517</b>
<b>Number of age- and income-qualified households (b)</b>	<b>3,000</b>	<b>3,500</b>
<b>Gross Market Penetration Rate (a/b)</b>	<b>11.9%</b>	<b>14.8%</b>

## What are “acceptable” penetration rates?

Fitch prefers project penetration rates below five percent and market saturation rates below 15 percent.

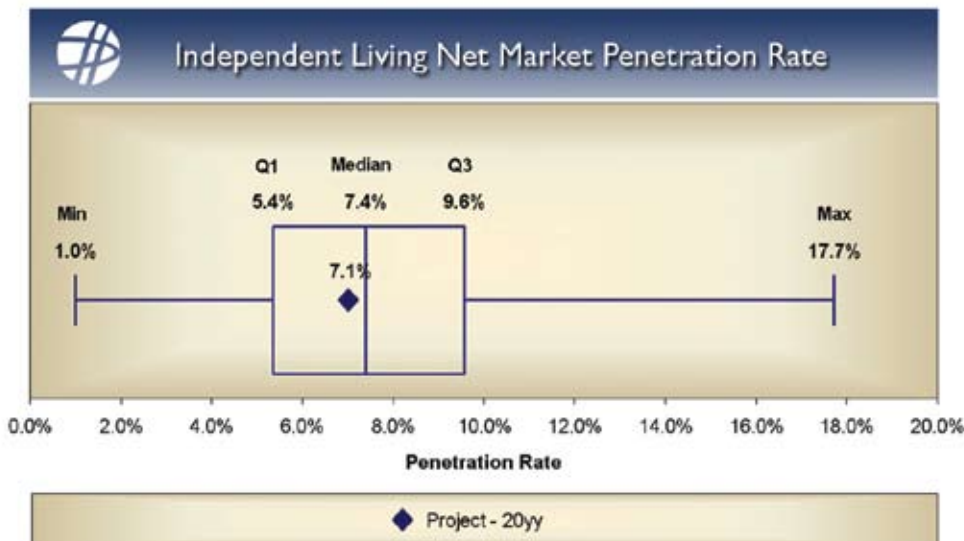
BB&T defines average independent living project penetration rates and market penetration rates as five to 10 percent and 15 to 25 percent, respectively, and high independent living project penetration rates and market penetration rates as above 10 and 25 percent, respectively.

The penetration rate benchmark graphs that follow are derived from the Dixon Hughes database. Quartile divisions are calculated by ranking the penetration rates in the database in ascending order and then dividing the list into four equal groups. “Q1” represents the 25th percentile of the database (the point at which 25 percent of the senior living projects in the database are at or below), the median represents the 50th percentile, and “Q3” represents the 75th percentile.



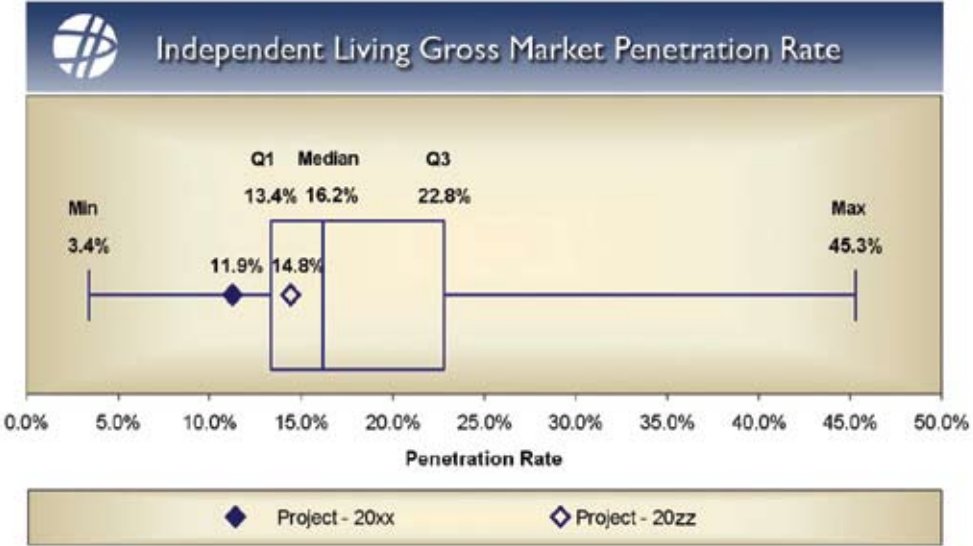
Penetration rates within the “box” fall in line with the middle 50 percent of senior living communities in the Dixon Hughes database. Penetration rates that fall outside of the “box” may indicate potential challenges the project may face.

If the penetration rate falls below Q1 (see *Independent Living Gross Market Penetration Rate Graph on page 7*), the market area may have a large number of age- and income-qualified households in relation to the number of independent living units. Or the market may be uneducated or not accepting of the product. This could result in a fill-up period much longer than anticipated. Although perceived as favorable, lower penetration rates may not always indicate positive market conditions.



If the penetration rate falls above Q3, the market may be saturated and have a more difficult time filling units. Some markets, though, may have a higher acceptance level for senior housing and may support higher penetration rates. In addition, if entering a market where the majority of the competitors have high occupancies with active waiting lists, this could be an indicator of demand for additional product.

Whereas project penetration and net market penetration rates indicate a snapshot in time and typically are calculated in the year of opening, the gross market penetration rate is calculated in the current year and the projected year (often five years into the future). The rate of change between the current year and the projected year indicates the impact of the project and other planned units on the market as a whole. A small change in the gross market penetration rates is a favorable indicator, suggesting that the planned units only have a slight impact on the market. A decrease in the gross market penetration rate over a period of time is considered favorable, indicating that the number of age- and income-qualified households in the market is growing at a faster rate than the number of independent living units in the market area.



**Does the penetration rate really tell the whole story?**

*Penetration rates provide one indication of market demand and must be considered in conjunction with other factors, including:*

- Occupancy levels at existing communities within and near the PMA
- Other proposed projects in the PMA
- Design of the units and community spaces at the project
- Alternatives for potential residents
- Marketing plans
- Efforts of management

*The following issues/questions should be addressed when analyzing a penetration rate:*

- Is the consumer educated about senior housing products? If the consumer is unfamiliar with senior housing options, what are the financial implications of educating the marketplace?

- What is the velocity of pre-sales (10 percent deposits) at the project?
- Is the project offering a different product than what is currently prevalent in the market?
- How much competition exists in the market?
- Are competitive communities full with waiting lists?
- If overall market occupancy is low, has the market already reached its saturation point?
- Are there a number of planned communities that would enter the market at the same time as the project?
- Are new contract types being offered by the project compared to existing communities (i.e., rental vs. entrance fee, lifecare vs. fee-for-service)?
- Are there enough age- and income-qualified households to fill the project and those of competitors as well?

## Summary

Despite varying methodologies and calculations, there appears to be a consensus that penetration rates should not be relied upon as a stand-alone factor in determining a project's potential for success. Even when penetration rates are "acceptable," they should be considered in conjunction with one another and with the multitude of other factors that may impact performance.

When developing, marketing and financing a project, it is important to work with leaders in the senior living field who will provide the most current knowledge base available. The team of professionals on a project should have the ability to analyze data and address issues through every step of the process, regardless of the methodology used. Furthermore, it may be important to test different assumptions for the variables in the penetration rates (i.e., income levels, PMA draw assumptions, etc.) to gain a thorough understanding of all of the "what if" scenarios.

All things considered, it is important for the sponsor of a project to understand and be comfortable with the methodologies and their implications since they will have to live with the challenges and rewards of the project once it is built. ■

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*"An Examination of Market Analysis Methodologies Used in Determining Demand for Start-up Continuing Care Retirement Communities."* Ziegler Research Report. May 17, 2004.

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## About Dixon Hughes' Senior Living Practice

The Dixon Hughes Senior Living Practice has extensive experience helping clients plan and develop operationally and financially sound projects. We have taken great care in assembling a team of professionals who collectively possess over 150 years of senior living experience in a broad range of financial, development, marketing and operational disciplines.

We assist clients with strategic and development planning, financial feasibility studies, market and operations assessments, and performance and process improvement. Collectively, we have supported senior living providers across the country with projects representing in excess of \$7 billion of capital raised.

**Keith Seeloff** is the Member in Charge of the Senior Living Practice, leading a team of 25 professionals providing business advisory services for proposed and existing continuing care retirement communities (CCRC), assisted living facilities, skilled nursing facilities and other retirement housing projects. With more than 20 years of experience in healthcare and senior living, Keith has been a key participant in over 100 CCRC development projects, including startup communities, existing campus repositionings and obligated group financings, resulting in over \$2 billion in tax-exempt bond financing. Keith is an accomplished presenter on topics affecting the senior living industry.

## About the Authors

### Stephanie Johnson

Stephanie has over nine years of experience in the senior living industry providing consulting and strategic planning services. She has been involved in various phases of the development of senior living communities including feasibility studies, financial analyses, market and product demand, and pricing and service profiles for new, existing and expanding retirement communities.

### Lisa Legeer

Lisa has over 12 years of experience in the senior living industry providing consulting and strategic planning services. She has been involved in all phases of the development and operation of senior living communities, including market assessment and demand analyses, financial feasibility studies and other advisory services.



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