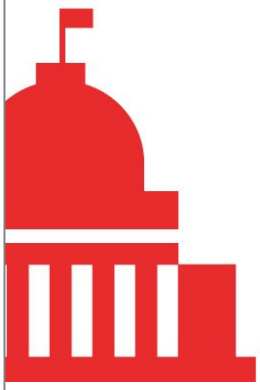

McKinsey Center for U.S. Health System Reform

Hospital networks: Configurations on the exchanges and their impact on premiums

The configuration of hospital networks is changing on the new public health exchanges and, in many cases, having a direct impact on premium levels. We are observing a phenomenon not dissimilar to that noted in the emerging private defined contribution exchanges: specifically, the "segmentation and valuing" of choice in the form of a proliferation of products with varying breadths of hospital networks. Across the markets we analyzed, there is a greater breadth of network options available on the individual exchanges compared to the 2013 individual market, with nearly every rating area offering consumers products with networks spanning from very narrow to broad. This trend is consistent with what we see in most well-functioning consumer markets ranging from cell phone plans to automobiles – a variety of choices comprising different value propositions at different price points.

The growing prevalence of products utilizing narrow and "ultra"-narrow hospital networks is evident,[1] and the motivation is bi-lateral. Hospitals in some cases have removed themselves from network consideration, believing the value of their services exceeds the amount carriers are willing to offer in terms of reimbursement. Carriers are adapting to affordability imperatives by actively excluding some higher cost hospitals while collaborating more closely with those willing to accept lower reimbursement rates. This latter group of hospitals is perhaps motivated by the potential to increase volume in what has been a flat to modest growth environment. These are both legitimate strategic postures and only time will resolve the prudence of either or both.

As defined by the strict network adequacy requirements set out initially by state insurance regulators, and subsequently by the Affordable Care Act (ACA), these narrower networks appear to be compliant in terms of both the number and types of providers, and the distance to the nearest provider. As well, we found no meaningful difference between participating and non-participating hospitals in these exchange networks when we examined the Centers for Medicare and Medicaid Services' (CMS) performance figures comprising a composite score of 20 quality and patient satisfaction metrics (the value-based purchasing score), and separate figures covering rates of readmissions.

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[1] Networks in our sample are categorized as follows: a) broad networks have less than 30 percent of 20 largest hospitals by bed size in the "relevant area" (area within 50 miles of rating area's most populous zip code) not participating, b) narrow networks have 30-69 percent of 20 largest hospitals not participating, c) ultra-narrow networks have at least 70 percent of 20 largest hospitals not participating; largest 20 hospitals represent ~80-85% of beds on average across rating areas.

Our analyses show, however, that products comprising narrower hospital networks correlate with a lower premium. Indeed, across the markets we analyzed, the median increase in the premium for the same product type (e.g. HMO, PPO), offered by the same carrier, in the same metal tier, but utilizing a broad versus narrow hospital network is 26 percent. Thus, the trade-off between price and choice of hospital breadth in a network in the exchanges has been established for the consumer. The consumer will now need to evaluate this price/breadth trade-off and choose a product accordingly.

Previous McKinsey research from exchange simulations[2] conducted within the last 12 months has revealed consumer demand at many price/network breadth combinations, including some consumers willing to select a narrower network product in return for lower monthly premiums or lower out-of-pocket costs. Empirical evidence of how consumers value this trade-off will emerge shortly, yet it may well take several years, after consumers have had experience with different types of networks and have made subsequent renewal decisions, until we understand any enduring impact.

To inform our observations, the McKinsey Center for U.S. Health System Reform compiled hospital network data from 120 unique 2014 individual exchange market products in the silver tier offered by 80 carriers,[3] and a subset of corresponding hospital network data from 2013 individual market products. Our analyses span 20 urban rating areas across a broad geographic range,[4] and these rating areas include close to one-fourth of the U.S. non-elderly uninsured population.[5] In our analyses, we categorize each network based on its degree of narrowing – broad, narrow, and ultra-narrow – defined by percent participation of the 20 largest local hospitals by bed size in that rating area.

We identified five key observations from our analyses:

- Narrow and ultra-narrow hospital networks are more prevalent (70 percent of all networks), increasing the variety of network configurations available to consumers
- Products with broad hospital networks reveal higher premiums, with a median premium increase of 26 percent between broad and narrower networks of the same carrier, product type (e.g., HMO, PPO), metal tier, and rating area. Also, the majority (84 percent) of lowest-price silver products utilizes narrow or ultra-narrow networks
- Network breadth and product type (e.g., HMO, PPO) are correlated: the majority (76 percent) of ultra-narrow networks is coupled with HMO designs, and the majority of HMOs (58 percent) is coupled with ultra-narrow networks

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2 Jenny Cordina et al, "Winning on the individual exchanges: Driving high consumer participation," McKinsey white paper, June 2012.

3 For each rating area, we identified all on-exchange silver tier networks. When the same carrier offered multiple products based on the same network, the lowest-price product was used. Carrier count represents unique carriers at a state level. See methodology in appendix for further detail.

4 Cities include: Atlanta, Bridgeport, Chicago, Dallas, Denver, Houston, Indianapolis, Los Angeles, Louisville, Miami, Nashville, Philadelphia, Pittsburgh, Portland (ME), St. Louis, Salt Lake City, San Jose, Seattle, Tampa, Washington DC.

5 Non-elderly uninsured defined as those over 100 percent FPL in non-Medicaid expansion states and over 138 percent FPL in Medicaid expansion states.

- Frequency of narrow networks differs notably by carrier type, as does the carrier's ability to translate narrower networks into competitively-priced products
- Academic medical centers are participating predominantly in broader, higher-priced exchange offerings (10 percent higher premium on average)

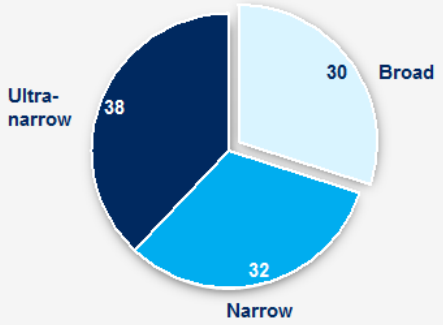
Narrow and ultra-narrow hospital networks are more prevalent (70 percent of all networks), increasing the variety of network configurations available to consumers

Over two-thirds of all exchange networks we analyzed have at least 30 percent of the largest 20 local hospitals not participating. In fact, nearly 40 percent of the total are ultra-narrow networks, in which 70 percent or more of the top 20 hospitals are not participating *(Exhibit 1)*. In some instances, the hospital has elected to stay out of the exchange; in other instances, the carrier has excluded it.

EXHIBIT 1

70 percent of hospital networks on exchanges are narrow or ultra-narrow

Distribution of networks by network breadth[1]
2014 individual exchange – Percent of analyzed silver networks (n = 120[2])



1 Broad networks: less than 30% of largest 20 hospitals by number of beds are not participating, Narrow networks: 30-69% of largest 20 hospitals are not participating, Ultra-narrow networks: at least 70% of largest 20 hospitals are not participating
2 Networks offered in silver in Atlanta, Bridgeport, Dallas, Nashville, Houston, Salt Lake City, Miami, Tampa, Louisville, Indianapolis, St. Louis, Los Angeles, San Jose, Pittsburgh, Denver, Philadelphia, Seattle, Chicago, Washington D.C., and Portland, ME

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly availablerate filings and carrier information; AHA database — *Data as of 11.15.2013* — McKinsey & Company

This expanded use of narrower networks has increased choice for consumers, as we illustrate by comparing incumbents' network offerings in the 2013 individual market to the 2014 individual exchanges in the same rating area.[6] Incumbents are offering almost three times as many ultra-narrow and narrow networks as they offered in the same markets prior to the exchanges *(Exhibit 2)*. Broader network offerings are fewer than in 2013, yet remain available in almost every rating area we analyzed. The prevalence of narrower networks varies across markets, with the average percent contraction of incumbents' network breadth between 2013 individual market networks and 2014 individual exchange networks ranging from 11 to 60 percent *(Exhibit 3)*.

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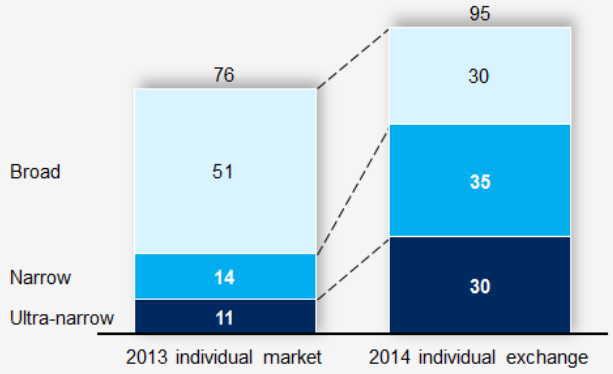
[6] Incumbents are defined as any existing carrier in 2013 that has filed on the exchange in 2014.

EXHIBIT 2

Network configuration options have increased across incumbents' offerings

Incumbents' 2013 individual market network offerings vs. 2014 exchange offerings[1]
Number of analyzed networks



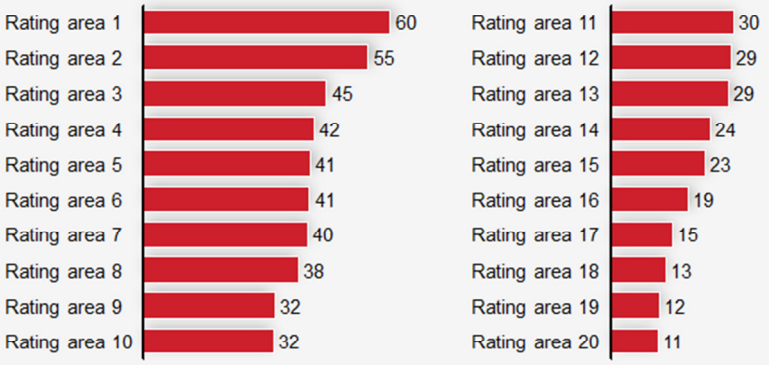
1 Incumbents are defined as any existing carrier in 2013 that has filed on the exchange in 2014. 2014 individual exchange data includes silver tier only

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database — Data as of 11.15.2013 — McKinsey & Company

EXHIBIT 3

Range of contraction in networks breadth varies from 11 to 60 percent

Contraction of incumbents' network breadth between 2013 individual market networks and 2014 individual exchange networks[1]
Average percent contraction in network breadth



1 Incumbents are defined as any existing carrier in 2013 that has filed on the exchange in 2014

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database — Data as of 11.15.2013 — McKinsey & Company

For each of these narrower networks, carriers have adapted their network designs following the strictly defined network adequacy requirements.[7] The geo-access regulations – in place before, and expanded by, the ACA – define the minimum number and types of providers, and the maximum driving distance and wait time, to ensure adequate access to care.

[7]Before passage of ACA, network adequacy requirements existed for HMOs in almost all states and PPOs in about half of states. ACA sets network adequacy requirements for all QHPs, still leaving states to define and regulate adequacy.

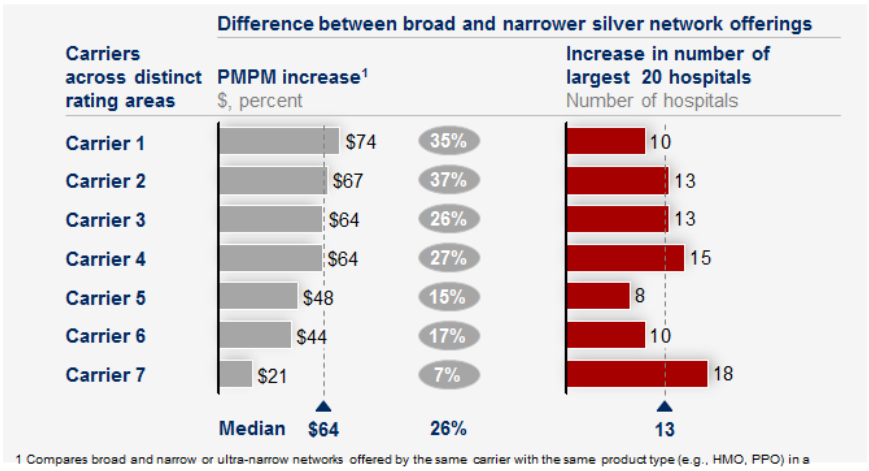
We reviewed CMS's records of readmissions and its composite score (value-based purchasing) of 20 other quality and patient satisfaction measures[8] and found there were no discernible differences in performance on these scores among the hospitals participating in ultra-narrow, narrow, and broad networks. There was also no meaningful difference when we compared lowest-price to higher-price product offerings.

Products with broad hospital networks reveal higher premiums, with a median premium increase of 26 percent between broad and narrower networks of the same carrier, product type (e.g., HMO, PPO), metal tier, and rating area. Also, the majority (84 percent) of lowest-price silver products utilizes narrow or ultra-narrow networks

Narrower networks appear to be an important and effective cost-control lever for carriers. Comparing silver tier broad and narrower networks of the same carrier, product type (e.g., HMO, PPO), and rating area illustrates the impact that network breadth has on premiums. Across the 7 carriers in our sample offering products in the same tier but with different network breadths,[9] we observed premium price increases in the broader networks of $21 to $74 per month, with a median of $64.[10] This is equivalent to an increase in premiums ranging from 7 to 37 percent, with a median increase of 26 percent (*Exhibit 4*).

EXHIBIT 4

Broad networks result in a median premium increase of 26 percent



1 Compares broad and narrow or ultra-narrow networks offered by the same carrier with the same product type (e.g., HMO, PPO) in a given rating area. If more than two networks offered by a carrier meet these criteria, only the broadest and narrowest networks are included. Analysis based on silver premium for 40-year old individual non-smoker

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database — *Data as of 11.15.2013* — McKinsey & Company

Across silver tier networks in our 20 analyzed rating areas, 58 percent of the lowest-price products utilize ultra-narrow networks and another 26 percent utilize narrow networks

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8 CMS value-based performance score is a composite score based on 12 core clinical process measures accounting for 70 percent of the score, and 8 patient experience measures from Systems (HCAHPS accounting for 30 percent of the score.

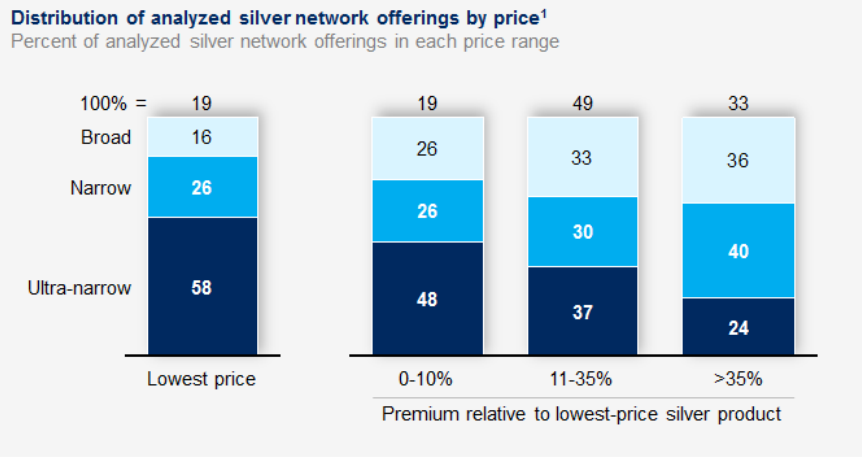
9 Within our sample of 80 carriers, we identified 7 carriers in distinct rating areas offering multiple silver networks of the same product type (e.g., HMO, PPO), allowing us to isolate the variable of network breadth. In each of these rating areas, for each carrier, we determined the difference in pricing between their broadest and narrowest networks.

10 Based on silver premium for 40-year old individual non-smoker.

(*Exhibit 5*). Network breadth appears to be positively correlated with premium levels in many cases, but the use of narrower networks is common at all price points.[11] This may be due to several other factors affecting carrier costs not integral to our analysis: different starting points for provider reimbursement levels, different assumptions regarding care management effectiveness, and different assumptions about risk selection and adjustments (i.e., morbidity of expected membership, impact of risk adjustors/re-insurance). Some of these factors understandably vary widely with the uncertainty of a new market, particularly the morbidity assumptions. As such, network breadth is frequently, but not always, a predictor of product pricing.

EXHIBIT 5

Most lowest-price products utilize ultra-narrow or narrow networks



1 When the same carrier offered multiple products based on the same network, the lowest-price product was included in the analysis

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database — *Data as of 11.15.2013* — McKinsey & Company

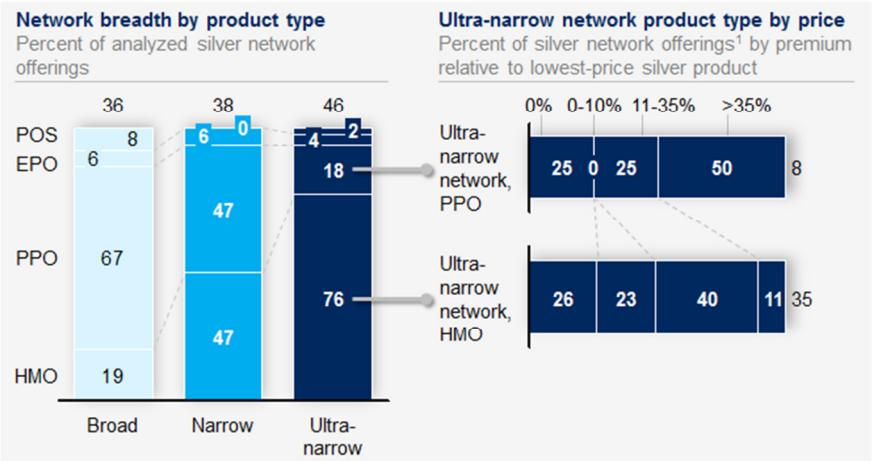
Network breadth and product type (e.g., HMO, PPO) are correlated: the majority (76 percent) of ultra-narrow networks is coupled with HMO designs, and the majority of HMOs (58 percent) is coupled with ultra-narrow networks

Network breadth and product type are two design features often associated with medical cost management and premium prices. In the silver tier offerings across the rating areas we analyzed, 76 percent of the ultra-narrow networks are HMOs and 58 percent of the HMOs use ultra-narrow networks (*Exhibit 6*).

[11] If a carrier offers more than one product using the same network, only the lowest-price product was analyzed.

EXHIBIT 6

Network breadth, product type, and premium levels are correlated



1 When the same carrier offered multiple products based on the same network, the lowest-price product was included in the analysis

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database

Data as of 11.15.2013

McKinsey & Company

Ultra-narrow networks coupled with HMOs are priced more competitively a higher percent of the time than those coupled with PPOs (49 percent vs. 25 percent priced within 10 percent of the lowest-price silver).[12] However, even the combination of HMO and ultra-narrow network does not guarantee price leadership (51 percent of ultra-narrow network HMO products are priced above 10 percent of the lowest-price product).

Frequency of narrow networks differs notably by carrier type, as does a carrier's ability to translate narrower networks into competitively-priced products

Our analyses suggest all carrier types—but not necessarily all carriers—are offering products utilizing ultra-narrow or narrow networks (*Exhibit 7)*. However, the frequency of narrow and ultra-narrow network offerings differs notably by carrier type, as does a carrier's ability to translate narrower networks into competitively-priced products. One may explain some of this by differences in other cost factors affecting carriers, such as morbidity assumptions. Carriers that are both formerly focused on the Medicaid segment *and* new to the individual segment in our analyzed markets are among the highest prevalence of ultra-narrow networks (81 percent), yet among the lowest prevalence of competitively-priced products (23 percent of ultra-narrow networks priced within 10 percent of the lowest-price product). National carriers[13] also frequently use ultra-narrow networks (41 percent), but are more often achieving competitive price points (62 percent of ultra-narrow networks priced within 10 percent of lowest). Still other carriers are more frequently using broader networks,

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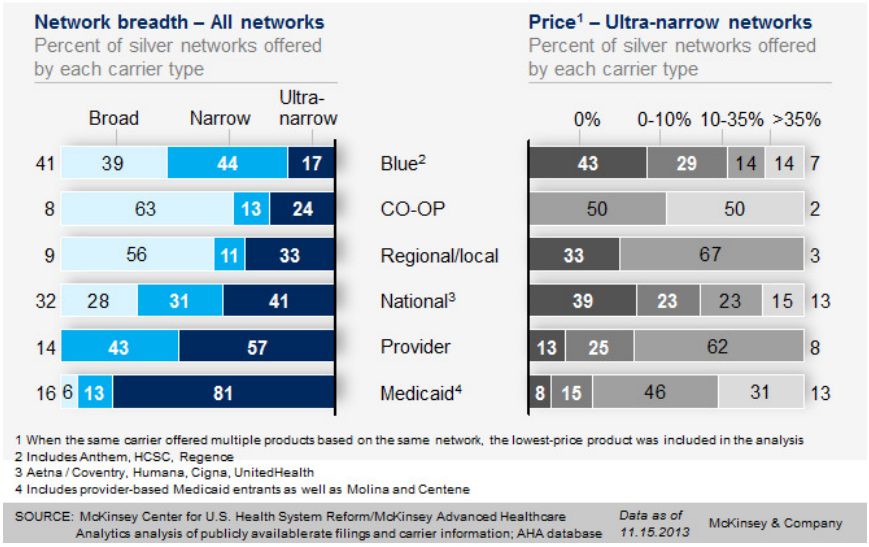
12 McKinsey's consumer exchange simulations show most people select either the lowest-price products or products priced within 10 to 15 percent of the lowest, especially in lower metal tiers.

13 The term "national carriers" refers to UnitedHealth, Cigna, Humana, and Aetna/Coventry. Anthem, HCSC, and Regence are excluded because they are classified as Blues plans. Molina and Centene are classified as Medicaid entrants.

and, at times, achieving price leadership. For instance, 25 percent of the broad network products offered by Blues carriers are priced within 10 percent of the lowest-price product.

EXHIBIT 7

Frequency and pricing of narrower networks differ by carrier type



1 When the same carrier offered multiple products based on the same network, the lowest-price product was included in the analysis
2 Includes Anthem, HCSC, Regence
3 Aetna / Coventry, Humana, Cigna, UnitedHealth
4 Includes provider-based Medicaid entrants as well as Molina and Centene

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database

Data as of 11.15.2013

McKinsey & Company

Academic medical centers are participating predominantly in broader, higher-priced exchange offerings (10 percent higher premium on average)

Academic medical centers (AMCs)[14] across our analyzed markets are most often participating in broader networks and higher-priced offerings in the silver tier. Thirty-five percent of ultra-narrow networks have an AMC in network, compared to 94 percent of all broad networks *(Exhibit 8)*. Of all lowest-price offerings, AMCs are participating in 44 percent, compared to 91 percent participation in the highest-price offerings.[15] Participation of an AMC results on average in a 10 percent increase in premium across network breadths – $303 per member per month for products with AMCs compared to $275 for products without.[16] Again, the consumer has the opportunity to determine whether or not the participation of an AMC in his network is worth the price difference.

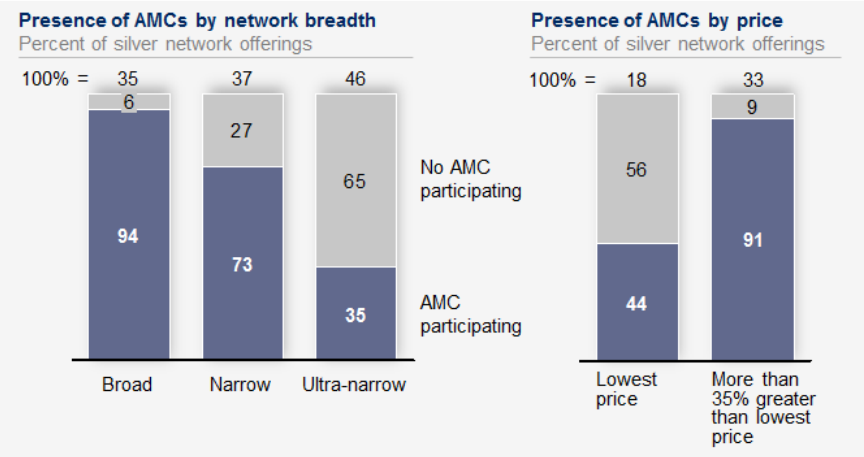
14 Defined as affiliated with an accredited U.S. medical school according to Association of American Medical Colleges (AAMC). For medical schools with more than one affiliated hospital, the largest hospital was used.

15 Defined as more than 35 percent greater than the lowest-price product.

16 Based on silver premium for 40-year old individual non-smoker.

EXHIBIT 8

AMCs are participating in broader and higher-priced exchange networks



1 Analysis based on PMPM for 40 year old non-smoking individual not eligible for premium subsidies

SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly available rate filings and carrier information; AHA database

Data as of 11.15.2013

McKinsey & Company

Potential implications on market structure and competitive dynamics

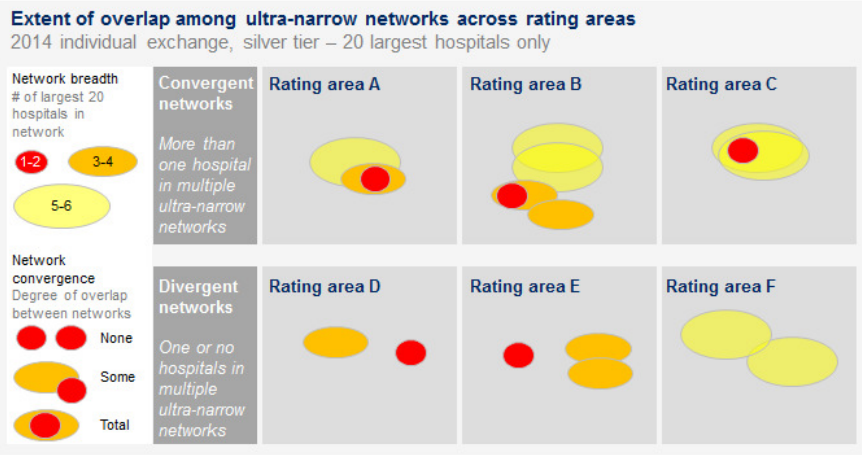
Choice and value for consumers. To the extent that consumers have ready access to information regarding differences in hospital network configurations, they will have the ability to factor hospital network breadth and composition into their purchasing decisions. As open enrollment progresses, we will be able to discern how consumers have reconciled this trade-off between premium levels and hospital access in their product selections.

It will take much longer, however, to gauge the impact of consumers' reactions to products utilizing narrower networks and their utilization of out of network healthcare services (especially emergency room visits). These effects may complicate the sustainability of narrow network products and could impact both economic performance and member retention for carriers, with implications for product and network design in 2015 and beyond.

Changes in competitive intensity and dynamics. Across the 20 rating areas we analyzed, the level of overlapping hospital participation among ultra-narrow networks varies greatly (select examples in *Exhibit 9*). Certain cities have a high degree of overlap, whereas others have little to no overlap. In areas with high degrees of overlapping ultra-narrow network products, specifically among the low-priced products, the possibility of capacity constraints increases. Alternatively, in areas with limited network overlap, the basis of competition for the patient moves "forward" in the channel to the point of enrollment, and, once enrolled, hospitals not participating in the network essentially lose that patient (at least for elective procedures) for the entire enrollment period. The extent to which this will alter competitive dynamics and affect the relative market influence among carriers and providers remains unclear.

EXHIBIT 9

There are different levels of overlap between ultra-narrow networks



SOURCE: McKinsey Center for U.S. Health System Reform/McKinsey Advanced Healthcare Analytics analysis of publicly availablerate filings and carrier information; AHA database — Data as of 11.15.2013 — McKinsey & Company

Cost management levers beyond network composition. For most commercial carriers, hospital costs (including inpatient, outpatient, and ancillary) account for 35 to 45 percent of total cost of care.[17] However, other factors could also contribute to lower premium products, including narrowing of specialist participation, prescription drug benefit differences, pricing assumptions about risk pool (i.e., morbidity of expected membership, impact of risk adjustors/re-insurance), or aggressiveness of the pricing strategies adopted by the carrier itself. Accordingly, our intention is not to "over index" on hospital network configuration as the defining factor in controlling costs. Nonetheless, our analysis strongly suggests that the use of narrow and ultra-narrow hospital networks appears to be an important contributor to overall cost effectiveness.

□ □ □

The preliminary findings presented in this Intelligence Brief provide an early perspective of the network configurations being offered on the public exchanges. These findings are directional indicators only, based on 20 urban rating areas across the U.S. These exchange network data suggest that choice for consumers is expanding to include an increased number of offerings with varying breadths of hospital networks. We do not yet know how these changing network configurations will influence short-term consumer purchase trends or what the longer-term implications are for utilization and member retention. We will analyze data on enrollment and utilization as they become available to further inform the observations and implications described in this brief. We also are investigating a broad set of other characteristics of low-priced products leading to potential market disruption.

Erica Coe, Chiara Leprai, Jim Oatman, Jessica Ogden

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[17] 2012 Health Care Cost and Utilization Report by Health Care Cost Institute.

Appendix

Additional background on the underlying research

The analyses supporting this Intelligence Brief are informed by a new McKinsey Health Systems and Services Practice asset that has been developed jointly by the Center for U.S. Health System Reform and McKinsey Advance Healthcare Analytics (MAHA). Instead of estimates and projections, this tool offers a real-time view of what has actually been filed on the exchanges—over 21,000 qualified health plans—for 2014. The Reform Center/MAHA tool can compare individual and small-group rate filings, pre- to post-ACA trends, pricing across product types and actuarial value tiers by consumer characteristics, exchange network trends, predictions of market share based on filings and consumer-predicted dynamics, and more. Specific analyses are available upon request from the Reform Center/MAHA team; we look forward to helping our clients achieve success in the post-ACA market through the use of data-driven analysis on specific market trends.

Please contact reformcenter@mckinsey.com with any inquiries.

Methodology

The major analyses and other data sources used to develop this Intelligence Brief include:

Main analysis for targeted markets. For 2014 individual exchange market trends, we based our network analysis on exchange offering data accessed directly from the public exchanges as of November 15th, 2013. All data was obtained directly from the public exchanges (by shopping directly on all exchanges and by analyzing datasets released by the federal exchange). In addition, details about products' underlying exchange hospital networks were obtained directly from carrier sites. For pre-reform 2013 individual market data, we based our analysis on product data and underlying hospital network details accessed from both ehealthinsurance.com and carrier sites.

We ran an in-depth analysis of all hospital networks included in silver exchange products in 20 urban rating areas that together account for close to one-fourth of the non-elderly uninsured population in the U.S., defined as those over 100 percent of the federal poverty level (FPL) in non-Medicaid expansion states and over 138 percent FPL in Medicaid expansion states. These 120 distinct exchange networks are offered by 80 carriers. Our calculations are based on the number of carriers that offer plans in each state. As a result, a national carrier that offered plans in 12 states in 2012 would be counted as 12 "unique payors" in that year. In addition, a carrier that offers 2014 exchange plans in 4 rating areas in a state is counted as a single entrant in that state. We focused this analysis on silver products for two reasons. First, all carriers are required to offer a silver product to compete on the exchanges, and thus this analysis includes all exchange carriers in a given rating area. Second, the silver tier is the only tier for which income-eligible consumers can receive federal premium and cost-sharing subsidies. In addition, we limited our analysis to on-exchange offerings, as complete off-exchange filings may not be available in every state until the end of 2013.

Markets selected. The 20 urban rating areas included in our analysis were selected for their geographic diversity across both the federal and state exchanges:

Atlanta, GA (FFM)	Los Angeles, CA (State)	St. Louis, MO (FFM)
Bridgeport, CT (State)	Louisville, KY (State)	Salt Lake City, UT (FFM)
Chicago, IL (FFM)	Miami, FL (FFM)	San Jose, CA (State)
Dallas, TX (FFM)	Nashville, KY (State)	Seattle, WA (State)
Denver, CO (State)	Philadelphia, PA (FFM)	Tampa, FL (FFM)
Houston, TX (FFM)	Pittsburgh, PA (FFM)	Washington D.C. (State)
Indianapolis, IN (FFM)	Portland, ME (FFM)	

Classifications. The criteria we used to classify networks, hospitals, products, and carriers are summarized below.

- *Network breadth.* Hospital networks are classified based on the degree of restrictions imposed, defined by number of each area's 20 largest hospitals participating in each network based on rank-ordering the number of licensed beds in each hospital located within 50 miles of the rating area's most populous zip code. The top 20 largest hospitals represent the majority of bed capacity in these areas (~80% across all of the rating areas). Our sample excludes psychiatric, rehabilitation, and Veterans hospitals.
  - Broad: Less than 30 percent of 20 largest hospitals not participating
  - Narrow: 30-69 percent of 20 largest hospitals not participating
  - Ultra-narrow: At least 70 percent of 20 largest hospitals not participating

  For tiered networks, the network breadth was determined based on the number of hospitals included in tier one. Two out of 120 analyzed networks had a tiered hospital network.
- *Hospital type.* Of the 20 largest hospitals in each market, academic medical centers are classified based on two criteria: status as a primary teaching affiliate of an AAMC accredited medical school (either direct affiliate or affiliate with largest number of beds where no direct affiliate present); or, inclusion in U.S. News and World Report's 2013-2014 national hospital rankings of 'Honor Roll' and/or 'Best Hospitals' by specialty.
- *Product type.* Product type of each exchange network offering is based on product offering details listed on respective exchange websites.
  - EPO: an exclusive provider organization is a plan model similar to an HMO. It provides no coverage for any services delivered by out-of-network providers or facilities except in emergency or urgent care situations; however, it generally does not require members to use a primary care physician for in-network referrals.
  - HMO: a health maintenance organization is a plan model centered around a primary care physician who acts as gatekeeper to other services and referrals; it

provides no coverage for out-of-network services except in emergency or urgent-care situations.

- POS: a point-of-service plan is hybrid of an HMO model and a PPO model; it is an open-access plan model that assigns members a primary care physician and provides partial coverage for out-of-network services.
- PPO: a preferred provider organization is a plan model that allows members to see doctors and get services that are not part of a network, but out-of-network services require a higher copayment.

- *Carrier type.* Insurance carriers were classified based on the following definitions:
  - Blues: a Blue Cross Blue Shield insurer; includes Anthem, HCSC, Regence; considered an incumbent
  - Consumer-operated and oriented plan (CO-OP): a new entrant that is a recipient of federal CO-OP grant funding and is not a prior commercial carrier
  - Medicaid: a new entrant that formerly offered only Medicaid insurance in the past; includes Molina and Centene
  - National: commercial insurer with a presence in more than four states that has filed on the exchanges – specifically UnitedHealth, Cigna, Humana, and Aetna/Coventry; considered incumbents
  - Provider-based: an entrant that operates as a provider/health system; classified as new or existing based on presence of individual business in 2013
  - Regional/local: commercial insurer with a presence in four or fewer states, most often just one state, that has filed on the exchanges; classified as new or existing based on presence of individual business in 2013

Pricing analyses. When a carrier offers multiple products on an exchange, multiple plans with different premiums can be based on the same hospital network. In these cases, the premium used in our pricing analyses was the lowest one among the plans (e.g., if a carrier offered three plans with the same network for $200, $220, and $240 per month, $200 was used for all pricing analyses). Because there are large differences in premiums across the 20 rating areas we studied, all plan premiums were analyzed relative to their percentage difference from their market's lowest-price silver plan.

Quality analyses. To test for a relationship between hospital performance and exchange network participation, we compared scores for two Centers for Medicare and Medicaid Services (CMS) metrics – the composite value-based purchasing (VBP) performance score and the average of the excess readmissions ratios for Acute Myocardial Infarction (AMI), Pneumonia (PN) and Heart Failure (HF) – to overall and market-level hospital participation.

- The VBP score was created under ACA to incentivize individual hospitals to improve quality of care. It is a composite score based on 12 core clinical process measures (e.g., heart attack patients receiving fibrinolytic medicine within 30 minutes of arrival) accounting for 70 percent of the score, and 8 patient experience measures from

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) accounting for 30 percent of the score. VBP performance scores are used to determine the value-based incentive payment for each hospital. We used the FY2013 VBP based on hospital performance between July 2011 and March 2012.

- The second performance measure, the average of the excess readmission ratios for AMI, PN and HF, compares the hospitals' readmission performance to national averages for readmission for the hospital's set of patients for the respective conditions, and is used in part to calculate the readmission adjustment payment for each hospital. We used the FY2014 excess readmission ratios based on 30-day hospital readmissions between July 1, 2009 and June 30, 2012.

Of the 398 hospitals in our sample (Portland, Maine only had 18 hospitals, the only rating area with less than 20 hospitals), we were able to obtain VBP scores for 344 hospitals and excess readmission ratios for 361 hospitals. Hospitals excluded from the analysis include Children's hospitals, hospitals that did not participate in the Inpatient Quality Reporting (IQR) program during the performance periods, hospitals cited by the Secretary of HHS for deficiencies during the performance period that jeopardized patients' health or safety, hospitals unable to meet the minimum number of cases, measures or surveys required by the VBP, and hospitals in states (e.g., Maryland) that are exempt from the VBP program.

Pre- and post-reform network analyses. We identified and pulled individual pre-reform networks for all incumbents in our 20 rating areas (any existing individual market carrier in 2013 that has filed on the exchange in 2014). To access pre-reform networks for our 20 rating areas, we looked up the respective zip codes on ehealthinsurance.com and pulled all 2013 networks for incumbents. If no product was available on eHealth, we used the carriers' websites to identify the 2013 network. For each incumbent, we compared each 2014 silver tier exchange network's participation rate of the largest 20 hospitals to the 2013 individual market network with the same name, if possible. If no matching 2013 network name existed, we used the narrowest 2013 network to give us the most conservative estimate of narrowing.

Please contact reformcenter@mckinsey.com with any inquiries about our methodology.

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Updated as of December 14, 2013