

## Summary of FTC Healthcare Information and Competition Conference, April 16, 2004

On April 16, 2004, the FTC sponsored a health care conference focusing on competition and information.<sup>1</sup> This one-day conference, organized by Dan Kessler, a Stanford health economist, brought together academics and health policy makers to examine the production of and use of health care market information by consumers and employers. The conference participants presented research findings on the use of health care quality information on health plans and providers by consumers and employers. Factors that might retard health care competition were also discussed, as was the interaction between information and competition.

Seven academic papers were presented. The research ranged from topics on the use of health plan report cards, to the incentive to provide accurate information, to restrictions on entry into medical specialties. In addition, government healthcare experts spoke about the efforts their agencies were undertaking to foster information collection and provision. The audience consisted of FTC staff, health care agency staff, and various others interested in government health care policy on competition and information.

The following summary describes the papers in the order they were presented and provides some information about issues that arose during the discussion. Those interested in more details about any particular paper or presenter should see the PowerPoint presentations and the biographical information included on the FTC/economic resources webpage. Not all presenters provided written comments.

Luke Froeb, the Director of the Bureau of Economics began the proceedings by welcoming the researchers and briefly describing some of the FTC activity in health care-related areas. He emphasized the FTC's goal of making health care markets work as well as they can to help foster efficient and effective health care provision. Froeb focused on hospital competition (e.g., hospital merger cases), and physician collusion cases (joint bidding and rate setting among competitors who are not integrated in provision of care.) He also mentioned the state laws (e.g., "any willing provider" laws) that tend to restrict competition among networks or panels of providers because they destroy the incentive to form selective panels of providers. Such laws make competition hard to engender and public policy should not get in the way of innovations that may reduce the cost or improve the efficiency of health care delivery. Froeb said he expected an interesting and productive day, and he was not disappointed.

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<sup>1</sup>This summary was prepared by Paul A. Pautler. It is intended to provide a general summary of the day's events, and it is not a detailed account of all the presentations or follow-up discussions among the participants. The views expressed in the summary are not those of the Commission or any individual Commissioner. Indeed, given the nature of the document and the preliminary nature of the papers, the views may not represent those of any particular person or organization. Thanks to Marie Tansioco for help in developing the summary.

## **A Morning Focused on Healthcare Information**

The first paper of the day by Jean Abraham and co-authors focused on modeling the uncertainty surrounding health plan quality and how that uncertainty will affect consumer choice.<sup>2</sup> The paper examines factors that lead employees to search for information regarding plan quality and how that information is later used in consumer decisions to stay with or switch plans.

The paper models consumer choice as a function of relative provider quality. One of the unique aspects of the paper is that it adds an exogenous shock caused by the advent of new personal information (e.g., a visit to a perceived bad doctor). The data come from the Buyers Health Care Action Group (30 Minneapolis employers with 250,000 employees & dependents) and a 2002 survey of 711 unmarried employees of 16 BHCAG firms who used mainly Choice Plus, a plan which further negotiates with provider-run “care systems.” The care systems are rated each year by members.

The probability of information seeking is modeled as a function of dissatisfaction in the last year with the incumbent care system, importance of quality, age, gender, tenure in the area, health status, income, job tenure, education, and how information was distributed by the 16 firms. Switching is a function of plan satisfaction, quality awards and ratings of alternatives, relative premium payments, physician/nurse loyalty, chronic disease, tenure in area, and type of employer information provision. A two equation model is estimated. An information awareness equation and a care system switching regression are estimated for 2001-2002. The estimation technique uses bivariate probits and linear probability models defining various instrumental variables to handle endogeneity of information awareness in the switching regression.

The results indicate that for those being female, highly educated, and at a firm that actively pushes plan information to its employees, information gathering improves information awareness. For switching, out-of-pocket price matters (but the effect is not as large as in other studies), the existence of a chronic disease may reduce switching, and having a regular healthcare provider matters a lot. Perhaps surprisingly, a bad rating for an incumbent plan did not lead to much switching. The authors argue that competition does not work particularly well among health care plans with exclusive provider affiliation because provider loyalty reduces switching in response to plan price and quality.<sup>3</sup>

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<sup>2</sup>Abraham, Jean M., Roger Feldman, Carolyn Carlin, and Jon Christianson, “The Effect of Quality Information on Consumer Choice of Health Plans: Evidence from the Buyers Health Care Action Group,” June 2003.

<sup>3</sup>One question that would arise again later in the day is whether broad panels are good or bad for fostering competition. While they can overcome consumer/employee plan switching inertia (because you can keep your doctor), they weaken competition in the physician market - a key input for health plans.

One finding from the Minneapolis survey was that relatively few consumers (25 to 35%) were aware of health plan quality measures and those employees who were happier with their plan were more aware of the ratings. Various commentators noted that health care information is unimportant to most consumers/employees because they have little interaction with providers. Those who do interact with providers, however, gather much more information - a finding that is consistent with the results in the paper.

The second paper by Ginger Jin and Alan Sorensen examined consumer health plan choices based on quality information collected by the National Council on Quality Assurance from 1996 to 1999.<sup>4</sup> Much like the previous paper, the authors were interested in the general question of whether collection and dissemination of information on health plans is worth the cost.

To address that question, they obtained data from NCQA on the set of health plans offered to federal government annuitants in 86 counties. In these counties, some plans allow NCQA to publish their quality data, while other plans report data to NCQA but do not allow that information to be released to the public. This difference in reporting allows the authors to examine the differential impact of publicized versus non-publicized information. Previous literature (some by Chernew & Scanlon) examined federal employees, GM employees, or Harvard employees and found that published ratings had affected employee choice of health plans. However, published ratings might mimic the information that is already available to employees from their own experience or by word of mouth. If so, the estimated impact is likely to be biased. Jin and Sorensen use non-publicized information to correct for this bias. In doing so, they examine whether the publicized information appears to be “news” and whether it alters consumers’ decision-making.

In addition, the authors’ analysis controls for satisfaction ratings provided in the federal health plan guide, uses lagged market shares to control for time-invariant plan quality, and adjusts for inertia in consumer choice of health plans. Like consumers in previous studies of health plan choice, most federal annuitants do not switch plans – they make a choice once and stick to it. Because this inertia exists before and after the publication of health plan ratings, Jin and Sorensen adjust for it by including a dummy variable for non-incumbent plans. The impact of the variables mentioned above, together with individual and plan characteristics, is estimated using a multinomial logit model of random utility.

The authors also distinguish “old” and “new” annuitants. Old annuitants refer to those that could stay in their incumbent health plans, while new annuitants are compelled to switch either because they moved away from the serving area of incumbent plans or because their incumbent plans stopped contracting with the federal government. The impact of health plan

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<sup>4</sup>Ginger Zhe Jin and Alan Sorensen, “Information and Consumer Choice: The Value of Publicized Health Plan Ratings,” August 2004 available at <http://www.stanford.edu/~asorensen/papers/value-of-info.pdf>

ratings is very different for old and new annuitants. According to the authors' estimates, publicizing quality information through NCQA generated different plan choices for only 24 of the 512,000 old annuitants. In contrast, the information led 2,747 (or 8.65%) of the 31,757 new annuitants to choose different health plans than they would have otherwise.

To put the results in context, the authors calculate (roughly) that plan information is worth \$350 (per person) to the new annuitants who ultimately change plan upon receipt of the information. On average, it is worth \$31 per person to all new annuitants. Pooling old and new annuitants, the information is worth only \$2 per person, largely because most annuitants have the choice to stay in incumbent plans and prefer to do so regardless of plan ratings. In other words, "new" annuitants are much more active in the market for plan information, and therefore value the information much more highly than "old" annuitants do.

The third paper of the morning, by Kate Bundorf and her co-authors, examined whether (and how) consumers gain health care information on the Internet.<sup>5</sup> Consumers in the aggregate seem to care about obtaining health care information on the internet (40% of internet users get health information in this way) and that consumer search lowers the cost of health care. Recent research has tended to confirm that those with the lowest information access costs and those with the greatest need for the information are those who seek out self-care information.

These authors use a survey approach based on a nationally representative, randomly chosen sample of adults less than 65 years old, who were part of a Web TV initiative during December 2001. The survey asked questions about the respondents' use of the internet to obtain information for themselves or relatives, and about the types of information obtained (general information, specific disease information, self-help, etc.). The survey responses also included characteristics of the respondents, such as the presence of chronic diseases, distance to normal health care providers, and insurance status. The authors model information seeking behavior as a function of the individual characteristics.

The dependent variable is one of three indicators of type and frequency (intensity) of internet search for health information from websites or friends/family. The explanatory variables include self-reported chronic conditions, health insurance status, travel time to your normal healthcare provider, education, gender, age category, and previous internet connectivity. The authors find, not surprisingly, that those who benefit most from information (e.g., hypochondriacs; the chronically sick) and have the lowest relative costs of obtaining and processing it (e.g., rural or under-insured) seek it out most.

The most important result is how much travel time matters for certain of measures of health information gathering via the internet. Higher opportunity costs of information significantly increase internet use to obtain health care information. Chronic conditions also

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<sup>5</sup>M. Kate Bundorf, Laurence Baker, Sara Singer, and Todd H. Wagner, "Consumer Demand for Health Information on the Internet," March 2004.

increase internet use to discover health care information (about 38% of the chronically ill use it whether they are insured or uninsured). Uninsured individuals also use the internet more for information if they have a chronic condition, but otherwise, they use it less. Thus, healthy uninsured do not search out health information, since they would have to pay out of pocket for any subsequent provision. One implication of the research is that higher insurance co-pays will result in more search for health care information and more self-care.

The authors conclude that the largest potential benefits of the internet are to those who have chronic diseases, little insurance, and who require long travel times to access care providers. Because the survey did not allow consideration of the quality of information obtained, the authors cannot conclude much about the actual gains to consumers from information search. Recognizing this problem, the authors note that providing high quality information to the set of consumers who would benefit would be very valuable. How that might effectively be done is a question for another time.

The string of academic papers was broken when Dr. Arnold Milstein spoke regarding his efforts on behalf of the Pacific Business Group for Health (PBGH) to bring health care information to the masses of American consumers/employees and to collect good information about providers. Milstein thought the earlier papers did not prove that consumers would not use health care performance measurements. He feels that empirical findings from cognitive research will equally apply to health care. Accordingly, once such information is available in easily evaluable forms at levels of analysis of interest to consumers (such as individual MDs), a critical mass of consumers will value it highly and influence other consumers.<sup>6</sup> PBGH hopes to get a comprehensive health care performance disclosure project that includes MD performance measures up and running by 2006. While performance measures are not perfect, Milstein sees waiting for perfection as a losing proposition.<sup>7</sup>

Milstein argued that to be of use to consumers, information regarding healthcare quality needs to be virtually free to the consumer and needs to be “pushed” to consumers and negatively framed. Data needs to be highly “evaluable” by people. That means it has to be specific to the consumers’ questions and has to be presented in a way that tells the consumer what it means for them in terms they can readily understand and put into practice in dealing with individual providers. We do not need to tell people that Doctor A’s mortality rate is 3% and Doctor B’s is 3.6% percent. The data need to tell people how many days of quality living they are likely to lose if they go to Doctor A instead of Doctor B. Milstein noted that information provision similar to

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<sup>6</sup>Mike Chernew indicated that the studies presented earlier in the day did not imply that information was unimportant, but rather it indicated that the information was of interest to a small set of consumers at any point in time.

<sup>7</sup>Everyone on the panel and in the audience wanted to ask Dr. Milstein questions which is a testament to the interest in the work he is doing.

that done for restaurant cleanliness in Los Angeles (with prominent scores of A, B or C) would be helpful.<sup>8</sup>

For years there has been a debate about whether administrative records that are produced mainly for billing and patient tracking are good enough to use to determine healthcare quality in large samples. Many healthcare providers argue that you must use expertly abstracted medical records on clinical care (e.g., patient charts) to obtain even passably accurate information on quality of care.

Milstein referenced evidence indicating that performance rankings based on administrative records are already primitively correlated with medical record-based rankings and so the administrative data are fine for startup. Starting up with flawed measures will stimulate providers to improve the scope and accuracy of electronic data collection. There is certainly more “noise” in measures based on claims data than those based on detailed clinical abstracts, but there is also adequate “signal” value. Consumers need to know about providers that are well below and above average performance. We will not have full electronic medical records for a while. Milstein, however, contends that we cannot wait that long. Information regarding the process of care will primarily be used (e.g., if you are present at the hospital with a heart attack, do you get aspirin quickly at admission?) due to tough methodological problems associated with outcomes measures based on administrative records.

### **Luncheon Speakers Focused on Government Collection and Provision of Information**

Following Milstein, Irene Fraser began the lunchtime presentations with a description of several of the Agency for Health Research and Quality’s data collection efforts and their efforts to get the information out to the research community. Good information about health care is valuable because encounters with the healthcare system are more dangerous than almost anything American’s do - in line with the mortality rates associated with bungee jumping and sky diving. She noted that some recent evidence from RAND indicates that doctors provide appropriate care only about 50% of the time. AHRQ’s goal is to determine how good care really is, how it can be improved, and how it can be rewarded.

To move toward this goal, AHRQ produces several sets of information on health care quality including CAHPS, a consumer assessment of satisfaction with their health plan compiled via survey techniques. This effort began as a health plan database, but the data are being

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<sup>8</sup>Ginger Jin, who was in attendance and was the author of a study on the Los Angeles restaurant example, disagreed with the analogy of restaurants to health care. She thinks health care is so different on several fronts from restaurants that the A,B,C scoring approach will never work in health. She had several reasons for her views, the leading one being that switching costs are massively different between going out to eat versus going to a health care provider or health plan.

expanded to include many other things, such as hospital satisfaction surveys. In addition, AHRQ maintains the HCUP (healthcare cost and utilization project) hospital discharge database which includes information on hospital patients including charges, clinical information, and payer data.

AHRQ also produces information on “quality indicators,” which focus on three areas - prevention, the inpatient process of care, and patient safety. On the prevention front, each year in the U.S., \$29 billion is spent on “preventable” hospital admissions. If we did a better job of prevention and error reduction we could save a substantial fraction of that expense.

Medical outcomes measures (e.g., risk-adjusted mortality) are not the current focus of collection for either AHRQ or CMS, in part, because the provision of health care is considered too complex for current outcomes measures to be acceptable to clinicians. Most clinicians argue that risk-adjustment is not sufficiently refined to allow for acceptable accuracy in pinpointing who is good or bad at treating a given disease. As a result, the focus of quality measurement has shifted to defining and measuring appropriate clinical procedures and the process of care rather than the outcome of that care.

Fraser also discussed (non-traditional) uses of AHRQ data on quality and mortality (she used the drug industry analogy of “off label” uses of the data). AHRQ is encouraging more appropriate off-label uses to try to spur innovation by researchers and other users of the data.

Stuart Guterman followed Fraser with a discussion of efforts at the Centers for Medicare and Medicaid Services to collect and disseminate information on provider efficiency and quality. The notion behind the data efforts is to induce consumers and plans to reward better quality, but Guterman emphasized that even if consumers do not respond very much to information on health plan or provider quality, the providers do respond. No one wants to be near the bottom of a public list of quality indicators. Hospitals, nursing homes, and other providers appear to respond quickly to public ratings.

As with AHRQ, CMS has a number of healthcare data projects underway. CMS data on quality covers health plans, dialysis centers, nursing homes, hospitals, etc. Provision of hospital data is currently done voluntarily, but very recently in the 2003 Medicare reform bill, CMS got the ability to provide less money to non-reporting hospitals. That should move the “voluntary” production of data forward significantly. CMS currently has a demonstration project to give bonuses to the top performing hospitals on 34 measures covering 5 disease conditions. These pay-for-performance approaches appear to be the wave of the future in the US and internationally. It will be interesting to see how well they work.

Although CMS and AHRQ had initially focused on hospital quality and data, they are clearly now expanding their data collection efforts into the physician realm. CMS has several pilot projects underway on clinical performance measures, practice patterns, and information technology adoption. Physician data is now being collected in a doctors office quality (DOQ) pilot project.

## Afternoon Segments Focused on Healthcare Competition

Following the lunchtime speakers, the program returned to the academic arena, with presentation of a paper on the mortality effects of competition by Kevin Volpp.<sup>9</sup> Dr. Volpp's research is based on a "natural experiment," in which New Jersey switched healthcare regimes in late 1992 from a thoroughgoing regulatory scheme to a more competitive environment that allowed more pricing and contracting flexibility. New York, on the other hand, did not alter their health care scheme. That neighboring state, therefore, serves as the control for the natural experiment. The authors look at 1990-1996 time series data comparing mortality in New Jersey relative to the control state, New York. They examine all patients in the two states totaling 470,000 discharges, measuring 30 day in-hospital mortality for 7 conditions (pulmonary embolism, heart attack (AMI), hip fracture, stroke, GI bleeding, congestive heart failure (CHF), and pneumonia) in which hospital care matters for outcomes. The focus was on patients under 65 (so insurance can vary). Market structure was measured by Herfindahl Indexes for HSAs, and also by HHIs based on patient flow zip-code data for hospitals. The model portrays mortality (adjusted for risk via administrative data) as a function of age, discharge date, main payer, gender, race, hospital, main diagnosis, main procedure, many secondary diagnoses or procedures, insurance status, HHI relative to median, HMO penetration, hospital uninsured percentage, and pre-deregulation trends common to both states.

Absolute mortality rates fell from 1990-1996 in both states (about 1 and one-half percentage points from a 6% base) and declined more for the uninsured. Did mortality vary based on how competitive the market appeared to be relative to the state median? There was a lot of variation in the effect depending upon which procedure was under scrutiny, but in no case did relative mortality fall in New Jersey and in many cases it rose. Mortality was significantly higher for AMI, stroke, and CHF, especially for the uninsured with these 3 conditions. Some of the results are sensitive to the manner in which hospital market concentration was measured. The main results did not support the initial hypotheses that the uninsured would be those harmed by increased competition, but those results could be reversed if AMI patients were included in the data set. The results, however, do indicate that changes in the New Jersey health care system were associated with higher mortality. That result does not seem to carry over to the specific areas where there is less competition versus more competition (or at least those results are more fragile).

What is the mechanism by which the New Jersey law change resulted in increased mortality? The authors do not have data with which to answer that question. For their earlier work on AMI, they suspect it was caused by decisions to undertake less aggressive treatment at

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<sup>9</sup>Kevin Volpp, Jonathan Ketchham, Andrew Epstein, and Sankey Williams, "The Effects of Price Competition and Reduced Subsidies for Uncompensated Care on Hospital Mortality," April 8, 2004 (Extending previous work - 2003 Health Services Research - on AMI - with Mark Pauly et al.)



branches in the care process (e.g., doing less cardiac catheterization and revascularization procedures on the uninsured). Volpp and various co-authors are pursuing similar research on the 1990s experience in California with market-based reforms. Stay tuned for updates.

The next paper switched gears by looking at physician providers' control of the entry decision into medical specialties.<sup>10</sup> Sean Nicholson examined the rates of return for entering various medical specialties by use of the AMA's physician income surveys for 1986 to 1998. The net present value of lifetime earnings rose in all specialties from 1986 -1992, but it fell in every non-primary specialty by at least 7% from 1992-1998. The rates of return to specializing, however, were very large in all years relative to primary care specialties. He found that rates of return may be too high for dermatology, general surgery, orthopedic surgery, and radiology.

Nicholson then sought out the reasons for the high returns and discovered three potential explanations for the result. First, residency review committees (RRCs) significantly limit the entry of new doctors in several specialties, raising the return to being in those specialties and raising the costs of teaching hospitals substantially. There has existed an excess supply of candidates for entry into the high return specialties during the 1990s. Nicholson presents three explanations for the failure of the specialist markets to clear. The possibilities include: (1) cartel behavior by the specialty-specific residency review committees that are responsible for determining which teaching hospitals can train residents and how many they can train; (2) minimum wage regulation: the Accreditation Council for Graduate Medical Education (ACGME) requires that teaching hospitals pay residents a "sufficient" wage so that the residents do not feel compelled to moonlight and potentially compromise patient care. It is conceivable that teaching hospitals would want to expand their residency programs in certain specialties if they could charge tuition (i.e., a negative wage) and that there would be graduating medical students willing to pay to enter an attractive specialty; (3) Insufficient teaching material (not enough bodies to work on): it is conceivable that the residency review committees are denying the entry of new programs and the expansion of existing programs because these programs would not be able to provide each resident with enough practice in specific procedures where there is a steep learning curve.

Regarding implications for policy, Nicholson noted that removing the regulatory restraint on physician numbers will not be optimal if physicians can induce demand, and he offered no opinion on whether they might be able effectively to do so. He did, however, indicate that several policy changes would be beneficial including (1) the addition of government oversight members on the RRC's themselves to help retard cartel behavior, (2) providing additional public information to students on the number and types of slots available and new hospital programs; and (3) removal of the ACGME requirement for positive wages for residency slots. All these actions would likely result in a better match of supply and demand in the markets for residents in specialties.

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<sup>10</sup>Sean Nicholson, "Barriers to Entering Medical Specialties," September 2003.

Mark Pauly followed Nicholson, with a discussion of the way in which economists view quality.<sup>11</sup> He used the earlier discussion by Arnold Milstein as a jumping off point, noting that economists do not often countenance the argument that quality enhancements can be gained for free, but rather that firms operate as close to the production possibilities frontier as they can, and that additional gains in quality can only be obtained at some cost. His paper was a theoretical description of the ways in which economists have modeled quality and how it matters. Relative demand elasticities of price and quality determine how new information might be able to alter an equilibrium. The results for competitive markets and monopoly markets are contrasted.

Much of Pauly's paper focused on a world with good quality information (all buyers know the actual quality produced by each firm) or passably good information (some consumers know clinical quality and others must infer it, or rivalrous firms will "unfold" the information).<sup>12</sup> How much information is sufficient to get a good result? In a world of competition and perfect or good consumer information (about prices and qualities), consumers will get what they want and what they want will be the right amount (the constrained optimum). In a world of competition, but poor information, however, consumers may get what they want, but it may not be what they need. In such a world, "all bets are off."

In health care markets, one recurring question is whether consumers know anything about clinical quality or whether they base their decisions entirely on their own satisfaction based on bedside manner and University degrees. In the latter world, consumers may get what they want, but perhaps not what they need. Pauly also questioned the need for specific incentives for production of quality arguing that in most markets (and presumably in health care) high quality produces its own rewards in the form of higher prices or increased volume for the provider. Extra incentives would likely not be needed in competitive markets and would be a waste in monopoly markets. If monopolies under-produce quality, a better solution would be to attack the monopoly, not pay them to perform more appropriately.

Although he generally defended the traditional economists' approach to modeling quality and markets, Pauly noted that economists have not done a good job of modeling certain aspects

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<sup>11</sup>Mark V. Pauly, "The Interaction of Competition and Regulation in Affecting Product Quality in Medical Services," April 8, 2004.

<sup>12</sup>"Unfolding" will occur in theory as the best firms inform patients of their quality and the next best firms disclose in order not to be inadvertently lumped into the "bad quality" class. This process continues until only the truly bad firms are left in the non-disclosing set. Whether this unfolding of traits works in practice is an interesting question for research, some of which has been done in food retailing. For example, see Ippolito, Pauline M. & Alan D. Mathios, "The Regulation of Science-Based Claims in Advertising," *Journal of Consumer Policy*, 13, 413-445, (1990) which reveals partial, but not complete unfolding. The issue of voluntary information disclosure and unfolding was also discussed by PBGH's Arnold Milstein in response to a question by Nicholson earlier in the day.

of healthcare markets. For example, researchers beginning with Dr. John Wennberg in the early 1970s have documented wide variations in practice patterns and quality across geographic regions both within the US and in other nations - even some fairly small regions present surprisingly large variations. Economists do not have a satisfactory model that explains how such observable variations should persist.

In the final empirical paper of the day, Mike Chernew and his coauthors argued that economic theory is ambiguous on whether market competition will improve quality.<sup>13</sup> The outcome depends (as Professor Pauly had noted) on how consumers value quality, what it costs to provide, and what they can and do know about quality. Previous literature (Scanlon et al., 2003) found in cross section that market competition may be inversely related to quality. Because that result could be an artifact of cross section bias from unobserved variables, the authors decided to look at longitudinal evidence.

The authors presented preliminary analysis of a five-year panel of data (1998 to 2002) for 550 HMO plans regarding measures of quality of care. The dependent variable quality measures (obtained from NCQA reporting on HMOs) include three CAHPS measures: ratings for the overall plan, getting care quickly, and claims processing; and six HEDIS measures: immunizations for DPT & MMR, two women's cancer screening tests, a screen for a diabetes eye exam, and a measure of betablocker use post-AMI discharge. The authors correlate these quality of care measures with HMO market penetration and HMO competition, which is measured as weighted HHI's from the MSA's where they compete, as well as measures of HMO model type, for-profit status, plan age, and whether the plan allows public quality reports.

The authors estimate several models: a cross section for 1999 (to serve as a base of comparison), time series/cross section pooled, pooled with longitudinal changes in MSA structure of HMOs used to identify the competitive effects, and a pooled plan fixed-effects model. Focusing on their favorite model- the plan fixed-effects model, they find no link between HMO competition (lower HHI) and any of the six HEDIS quality measures. Four of the six HEDIS measures are better if HMO penetration is greater. For CAHPS measures of plan quality, competition improves consumer assessment of plan quality for two of the three measures (overall rating, and availability of quick care). They also find that public reporting is associated with higher quality.

Thus, the conclusions from this preliminary analysis suggest that competition may cause improvement in consumers' assessment of their health plans (CAHPS customer service measures), but it may not improve clinical measures of quality of care (various HEDIS measures

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<sup>13</sup>Dennis P. Scanlon, Shailender Swaminathan, and Michael Chernew, "HMO Competition and HMO Quality: Longitudinal Evidence" (April 7, 2004, actual date).

of appropriate actions to take in various common clinical situations.)<sup>14</sup> As Pauly remarked, consumers are getting what they want, but are they getting what they need?

Marty Gaynor wrapped up the conference by providing a discussion of issues that were raised by the research presented at the conference and that are largely unresolved in the literature. He noted that we have a good bit of empirical evidence now regarding markets for health care provision, but we have no useful way to think about the evidence. We need more rigorous theory. (This general point seems to echo some of Mark Pauly's earlier comments). In Gaynor's view we have a lot of persistent stylized facts, but those facts are not consistent with current theory and therefore, we have no useful concepts that tie the facts together. He suggested that economic theorists might provide: an equilibrium model of information acquisition and provision, indicating whether more is necessarily better; models of third-party information provision and how well such information provision works; and theory of how insurance markets really work - how much switching is good and how does adverse selection work.

We also need to know whether markets can really "do the job" in producing the optimal quantity and quality of information. Markets tend to do reasonably well in instances of symmetric uncertainty, but they perform less well when the information is highly asymmetric. In some instances, we may need systems that provide additional incentives for good performance (higher profits for providers, lower prices for shoppers), not just additional information about that performance. Models of consumer preferences in health care focusing on loss aversion (minimizing the maximum loss from an incorrect choice) may help explain a lot of the actions by consumers/patients. We also need to have better theory regarding contracting with asymmetric information. We need more complete models of insurance markets, health care provision markets and labor markets. These all impact the outcomes, but we tend to look at each market in isolation.

On the empirical front, Gaynor suggested that we need better quality measures to help us know whether hospitals are providing the "right" level of care. We also need better research on the best means of providing information to providers - is the best model one in which information is pushed to them and they are virtually forced to use it? Further, we need better public information on health insurance markets. We only know HMO markets and even that information is not all that good. PPOs and FFS insurance providers and markets are hardly trackable at all. Finally, better empirical methods for handling quality issues would be helpful - we need to more fully incorporate the endogeneity of information (it is produced by providers, outside parties, by the market system, and word of mouth) and its asymmetry.

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<sup>14</sup>Chernew argued that fragmentation among physician providers may be a reason that HEDIS measures do not improve. Most plans (even HMOs) now include broad provider panels or pay for outside network care and thus they all get the same care quality from the underlying providers in the communities. There is little scope for a plan to have a limited panel and affect the care-giving practices of the providers, for good or ill. Alternatively, consumers may just not care or know about HEDIS quality measures.

## General Lessons

Healthcare information matters to a small set of consumers who are active in the market, but not to the mass of people who are not “in the market.” Most people do not react (by switching insurers or switching providers) to information changes and that inertia needs to be more fully incorporated in theory and empirical work. What is now dawning on economists would likely have been obvious to marketers many years ago. The set of persons who are actively in the market for health information changes over time as people become ill and get well. At any one time, the people who care about health information is small, but at some point in their lives, most people are members of that small set. The chronically ill who have to travel a significant distance to their care providers are the most likely to always be in the market for health information. Those in the market for health plan information are potential switchers, who are a relatively small set of consumers.

Competition seems to work on the price dimension when that action is not stifled by legal constraints, but it is less clear that competition alone will improve quality. As better information is developed and is made more salient for consumers, competition among health care providers and healthcare information providers should push out more information. This additional information should help improve decision-making and lead to better matching of consumers with their preferred price/quality options.

In health care, as in many service industries, competition, information, and quality are all inextricably linked. This conference was intended to focus on information and competition, but pricing (or insurance premiums) was mentioned five or six times, whereas quality was mentioned hundreds of times. This reflects the efforts of the Institute of Medicine since the late 1990s to move the focus of health care researchers and policymakers to the quality of care and the fact that most information in healthcare is about quality and not about price - try asking a hospital for the price of an appendectomy or calling a doctor to ask about prices for a service (actually, some doctors will tell you prices for certain routine services). One key theme of the conference from the researchers and policymakers is the dearth of reliable information on quality and how hard (i.e., expensive) the concept of quality is to define and measure.

If we want good outcomes on the quality dimension, providers have to live in a world where quality variations can be known and the providers can capture the gains from additional quality. Otherwise, they will have little, if any, economic incentive to produce high quality care. If it costs more to produce high quality than low quality, and if consumers cannot differentiate high quality from low quality, then consumers will not pay for it and the quality of care we get will not reflect anything other than the provider’s choices.