University of Nebraska Medical Center

DigitalCommons@UNMC

8-2022

Analysis of the Utilization of Nebraska Medicine's Price Transparency Tool

Ingrid A. Olson
University of Nebraska Medical Center

Tell us how you used this information in this short survey.

Follow this and additional works at: https://digitalcommons.unmc.edu/coph_slce

Part of the Business Administration, Management, and Operations Commons, Community-Based Research Commons, Health Information Technology Commons, Health Policy Commons, Health Services Administration Commons, Organizational Behavior and Theory Commons, and the Policy History, Theory, and Methods Commons

Analysis of the Utilization of Nebraska Medicine's Price Estimator Tool

Ingrid Olson, MPH Administration & Policy

Committee Members:

- Chair: Dr. David Palm, Associate Professor & Director of the Center for Health Policy at UNMC

- Dr. Melanie Cozad, UNMC Professor

- Sandra Rose, OR Anesthesia Respiratory Therapist Supervisor

Chapter 1 - Introduction

Healthcare costs have become a significant concern for patients, healthcare facilities, economists, and politicians within the United States. In an effort to understand and reduce health-related costs, price transparency laws were enacted at the beginning of 2021. Because of these new laws, hospitals must provide a price transparency tool for their patients. "Price transparency in healthcare makes pricing information more readily available, defines the value of services, and enables patients and other care purchasers to identify, compare, and choose providers that offer the desired level of value" (AAMC, 2022). However, research results on price transparency tools use and efficacy is mixed. This study aims to analyze the utilization of the Nebraska Medicine price transparency tool through website traffic data. Information will be extracted from a third-party marketing tool, SEMRush, to determine how the local population is using the tool. The findings of this study may inform the prices of future services, help the hospital prioritize services, make inferences about health trends across the state, and prepare the organization for an increasingly competitive healthcare field.

Chapter 2 - Background and Literature Review

All hospitals across the United States were required to provide free cost estimates for treatments and procedures starting January 1, 2021, per President Trump's executive order issued in 2019 (AAMC, 2020). The new law aims to make healthcare costs more readily available, reduce healthcare costs, and help patients make financial decisions regarding their health. This project aims to analyze the utilization of the Nebraska Medicine online price estimator tool in its early stages,

specifically from July 2021 through January 2022. Evaluation of website traffic, user trends, organic trends, and keywords searched on the website are quantitative measures that can be tracked over time to understand the general population using the price estimator tool. Analysis of this tool can be used to guide hospital services, improve the marketing of services, better understand the population health of Nebraska and surrounding areas, and can potentially aid in state health initiatives. Nebraska Medicine could further use these tools and reports to compare its services to local competitors. In addition, this study will discuss potential implications for the future of healthcare and how price transparency could affect consumer choices.

The United States spends an exorbitant amount of money on healthcare. In 2019, the US spent $11,071.72 per capita, much higher than other countries of similar stature (OECD, 2022). Individual patients and the US economy cannot keep up with these prices forever. A study from JAMA examined the extent of America's medical debt and found, "Between 2009 and 2020, total medical debt in collections decreased less than reductions in nonmedical debt. By 2020, individuals had more medical debt in collections than debt from all other sources combined, including credit cards, phone bills, and utilities" (Kluender, 2021). It is imperative to control and reduce these costs to minimize the financial burden on patients as the costs are only projected to grow. "According to actuaries from the Centers for Medicare and Medicaid Services (CMS), the country's GDP spending on healthcare is expected to be 20.1% by 2025" (Herman, 2016).

The political climate of the past decade has been making steps toward a reformation of healthcare through innovative policies. One tactic that has been more

recently introduced is the idea of price transparency within healthcare systems. Beginning January 1, 2021, all hospitals operating in the US were required to provide clear, accessible pricing information regarding services and medical resources (CMS, 2021). There are two ways a hospital may provide this information. They may issue a comprehensive machine-readable file with all items and services or a display of shoppable services in a consumer-friendly format (CMS, 2021). This policy intends to make it easier for patients to 'shop' and compare prices between hospitals or insurance companies before receiving care. In the context of our capitalistic society, this policy creates a bridge between the structure of the US, consumer norms, and healthcare.

Uwe Reinhardt, a German economist, and Princeton Professor, once compared the United States healthcare system to "putting a blindfolded crowd of people in a store, instructing them to buy a shirt, and then billing them six months later for whatever they grabbed" (Altmann, 2008). This metaphor accurately depicts the informational ambiguity of the healthcare market. The complex structure of the United States healthcare system has created colossal price discrepancies among the same procedure. Also, it is the only healthcare system in the world that is profit-motivated and does not provide universal health coverage for all citizens (Slaybaugh, 2019). An article from the Peterson Center on Healthcare collected data on joint replacements for knee and hip surgery and found that the average allowed charges for in-network surgeries varied greatly by geographical location (Kurani, 2021). For example, the average joint replacement cost in New York City was $58,193, $44,611 in Dallas, Texas, $34,939 in Denver, Colorado, and $23,170 in Baltimore, Maryland (Kurani, 2021). Specifically, the price included in-network room and board, allowed charges for the procedure, and excluded out-of-

network clinicians. The same outcome was observed regarding MRI prices. The average cost of an MRI in New York City was $643, $778 in Dallas, Texas, $641 in Denver, Colorado, and $417 in Baltimore, Maryland (Kurani, 2021). Further, the average MRI price varied by over $500 across state regions (Kurani, 2021). Because of the fluctuations in prices between facilities and regions, it is difficult for patients to anticipate costs or financially plan for treatments or procedures.

Price transparency laws are different from past approaches because they force organizations to look at the flow of spending and costs within their facilities. In addition, it allows patients to ask more in-depth questions about their costs before receiving services—no other systemic legislative changes in the past targeted these issues. Price transparency laws are simply meant to inform the patient and give them an opportunity to make their own choices about their health. While price transparency laws alone are not enough to reduce costs, it is a critical piece of the healthcare puzzle. The effect of price transparency laws has yet to be seen. However, we can say for sure that it will uncover more information about healthcare-associated costs for organizations and patients and will undoubtedly affect the future of healthcare policy.

Today's healthcare system started with the Great Depression when hospitals banded together to offer prepaid coverage to citizens. This ensured payment to the hospitals and provided a way for consumers to have cheaper access to healthcare. From here, our healthcare insurance system was born. However, the system's fatal flaw is that the introduction of health insurance made it more difficult for consumers to make decisions about their healthcare, because they were not responsible for paying the full cost of care. Over time, costs spiraled upward, and the government stepped in to create

the Medicaid and Medicare system. Healthcare cost increases within the United States may be driven by greater demand for services by consumers who no longer foot the entire bill. The most recent legislative healthcare reforms are moving toward consumer-directed health spending in which consumers who spend less on their health will directly benefit (Gorman, 2006). Health Savings Accounts have been around since 2002 and help consumers save on their taxes and medical expenses. Money in these accounts accrues tax-free interest, and consumers have complete control of how to spend the money (BCBS of Minnesota, 2022). This gives consumers a greater sense of ownership and autonomy over their health.

One of the largest federally funded cost-sharing experiments was the RAND Health Insurance Experiment which studied the health and health expenditures of 2,000 non-elderly families from six areas in the United States (Gorman, 2006). Participants were followed between 1974 and 1982. Families were assigned to a prepaid group practice or one of 14 fee-for-service plans. "The most important result of the study was that per capita expenses on the free plan were 45% higher than those for the 95% cost-sharing plan. Savings primarily came from a reduction in the number of contacts rather than the intensity of services. For average adults, the health of those who spent less appeared to be just as good as those who spent more" (Gorman, 2006). The RAND Experiment shows a correlation between consumer autonomy and lower health spending with positive health outcomes.

HSAs and price transparency go hand in hand. If most US citizens want to embrace an HSA-forward healthcare system, they should also be given the right to research their potential healthcare costs. Concurrently using HSAs and price

transparency tools should allow patients greater autonomy over where to obtain their services. In turn, patients having more information and autonomy over these decisions may help reduce healthcare costs. This is a very strong statement and disregards the lack of information about what services are really needed. That is why we rely on physicians and other health professionals. Such decisions provide benefits to the consumer but may have adverse side effects for hospitals due to increased competition.

New price transparency laws affect many groups including patients, medical professionals, hospital systems, insurance companies, and the federal government. We cannot definitively say how price transparency laws will impact each group, but based on current healthcare trends and data, we can deduce some of the advantages and disadvantages for each group. Proponents of price transparency initiatives believe there are benefits to patients and the entire healthcare system. The laws intend to protect patients by allowing them to make more informed choices about their care, affordability, and how they can financially plan for their healthcare needs. "Advocates also laud price transparency because efforts to share critical data with consumers increased trust in the patient-physician relationship and within healthcare systems" (Lomax & Sun, 2020). Ultimately, patients will likely look for the best quality care at the cheapest out-of-pocket price at the most convenient facilities. Consumer needs will motivate healthcare facilities to provide services that align with these values and will create greater competition between markets. The hope is that price transparency laws will reduce price variation, healthcare spending and enhance the value of healthcare services (Lomax & Sun, 2020). In addition, price transparency policies may drive new legislation regarding quality and safety throughout healthcare systems.

Despite the benefits, various large medical associations are against price transparency laws. A joint statement from the American Hospital Association, Association of American Medical Colleges, Children's Hospital Association, and the Federation of American Hospitals reads, "Instead of helping patients know their out-of-pocket costs, this rule will introduce widespread confusion, accelerate anticompetitive behavior among health insurers, and stymie innovations in value-based care delivery" (Silets, 2019). Additionally, the Blue Cross Blue Shield President, Scott Serota, said, "The publication of negotiated rates for medical services may have negative, unintended consequences, including price increases, as clinicians could see the negotiated payments as a way to bid up prices" (Silets, 2019). These healthcare leaders have presented reasonable doubts and concerns about price transparency policies. They are right to postulate that these laws may have unforeseen complications. Price transparency policies are a relatively new strategy that has the potential to completely change healthcare as we know it.

There are multiple successful price transparency efforts in practice across the US. The Surgery Center of Oklahoma lists a total price for every procedure, including anesthesiology and all other fees (Shinkman, 2014). For example, a mastectomy costs $5,005, and a bilateral reconstruction costs $7,485 for a total of $12,490 (Shinkman, 2014). The average costs of these procedures range from $15,000 to $50,000 (Briody, 2013). The facility only accepts cash payments, but officials from the hospital have reported an increase in patients from out-of-state (Shinkman, 2014). The Surgery Center of Oklahoma has implemented a price transparency platform that uses available transactional data to help shoppers determine the fair market price, similar to

automobile websites (Shinkman, 2014). Price estimators are not an exact science and cannot be substituted as a bill, but they can give the patient a general idea of what their costs may look like.

Nevertheless, a journalism company in New York City has created a "Clear Health Costs" database after research showed healthcare cost discrepancies (Pinder, 2021). The database comprises information from three sources: surveys of local providers, community members, and Medicare reimbursement rates (Pinder, 2021). In short, they have created a community-based guide to health costs. This initiative is an excellent example of successful community-based partnerships and gives a glimpse into the future of price transparency databases. Additionally, it solidifies the want and need for pricing information for community members. Further, the California Public Employees Retirement System (CalPERS) saved $5.5 million over two years by putting a cap of $30,000 on knee and hip replacement surgeries (Shinkman, 2014). They were able to do this by arranging a network of providers through Anthem Blue Cross Insurance (Shinkman, 2014).

The future of price transparency policy and practice has much growing to do but has many options. Based on the research in the field, there is a clear need and want for price transparency, and much of the literature points to successful options for price transparency implementation. These policies can potentially reduce pricing variations, allow patients to shop for value, and enable them to make better informed financial decisions regarding their health. Ultimately, success will be dependent upon facilities, patients, lawmakers, and insurance companies coming together to produce a streamlined pricing system that appeases the needs of each stakeholder. The

information gathered from this study of Nebraska Medicine's price transparency tool can be used to develop it further and take a step towards advocating for patients' financial wellbeing, reducing healthcare costs, and healthcare reform.

Chapter 3 - Data and Methods

Data was collected using a third-party marketing platform called SEMRush. It utilizes software that enables marketing professionals to build and manage marketing campaigns with measurable results. SEMRush is a global company with seven million users, 142 geodatabases, 808 million domain profiles, and several global awards. This study will focus on the website traffic data, domain analytics, backlinks, and organic research. The same information was collected from the top three competitors in the area: Bryan Medical Center, Methodist, and CHI Good Samaritan. The information from competitors will allow for a comparative analysis of price tool useability that informs further discussion on data trends in the greater Omaha area market. This study has an observational descriptive research design. The aim is to describe the characteristics of the Nebraska population as it relates to price transparency tool usage and to infer how it may be improved or used to make organizational decisions. The type of data collected has not been controlled and will be analyzed and measured retrospectively between July 2021 and January 2022.

Information about the demographics in Nebraska is derived from the World Population Review; an independent organization focused on providing reader-friendly demographic information. Nebraska has a population of 1.960 million, and 34% of residents live in a rural environment (*Nebraska Population*, 2022). Even though much of

the state is rural, most of the population resides in Omaha and Lincoln. The median age in Nebraska is 36.2 years old, and the ratio of females to males is approximately 50.3% females and 49.7% males. Nebraska's population is mainly White (87.06%), 4.83% Black, 2.38% Asian, and 5.72% mixed or other. 66% of adult residents own their house; The average family size is 3. The high school graduation rate is 84.9% for males and 90.5% for females, with more females achieving higher degrees than males (Heese, 2022). The average yearly earnings of Nebraska adults is $40,341. Overall, there is an 11.11% poverty rate with the highest poverty level among the Native American population. The leading causes of death are cancer, heart disease, COVID-19, chronic lower respiratory diseases, and accidents.

Nebraska Medicine is the region's only 24/7 trauma center and the regional leader in cardiovascular and neurosciences (*Fast Facts*, 2022). They have approximately 9,200 employees and 1,000 affiliated physicians. Nebraska Medicine owns 88 specialty and primary clinics covering 50 specialties and subspecialties. There are approximately 1 million outpatient visits, 91,000 ER visits, and 82,000 virtual visits annually, with 24,138 patient discharges in the fiscal year of 2021 (*Fast Facts*, 2022).

The American Hospital Directory (AHD) is an online database that provides statistics and analytics using information from public and private sources such as Medicare claims, hospital cost reports, and commercial licensors. The information from this database is being used to compare Nebraska Medicine to its competitors and set a baseline for comparison to the price transparency tool. In their fiscal year of 2021, Nebraska Medical Center had 24,138 discharges, 175,951 patient days, and a net income of $107.5 million (2.3% of gross patient revenue) (AHD Nebraska Medicine,

2021). The top three inpatient services were general medicine (infections, gastrointestinal issues, ENT, trauma, etc.), surgery, and pulmonology (AHD Nebraska Medicine, 2021). Outpatients utilized clinic visits, Level 3 Drug Administration, and Level 4 Drug Administration the most (AHD Nebraska Medicine, 2021). CMS defines the classifications of these procedures, and information is reported for the twenty Ambulatory Payment Classifications (APCs), representing the highest Medicare payment to the hospital.

For reference, the top three competitors (Bryan Medical Center, Methodist, and CHI Good Samaritan) are considerably smaller facilities and have a lower trauma level status. In the fiscal year 2020, Bryan Medical Center, located in Lincoln, had 24,228 patient discharges, 119,610 total patient days, and a net income of $147.5 million (6.7%) (AHD Bryan Medical, 2020). The top three in-hospital patients utilized medical services: general medical needs, cardiovascular surgery, and general surgery (AHD Bryan Medical, 2020). The top three out-patient services were Level 3 Drug Administration, Level 4 Type-A ED Visits, and Level 5 Type-A ED Visits (AHD Bryan Medical, 2020).

Methodist Hospital is located in Omaha and had 16,644 discharges, 90,660 patient days, and a net income of $95.8 million (6.4%) in the fiscal year 2021 (AHD Methodist, 2020). The top three inpatient utilized services were general medical needs, pulmonology, and cardiovascular surgery (AHD Methodist, 2020). The top three outpatient utilized services were Level 2 Imaging with Contrast, Level 4 Type-A ED Visits, and Level 4 Nuclear Medicine and Related Services (AHD Methodist, 2020).

CHI Health Good Samaritan is located in Kearney. In their fiscal year of 2021, they had 5,782 discharges, 27,822 patient days, and net revenue of $73.1 million (12.3%) (AHD CHI, 2021). General Medicine, Orthopedic Surgery, and Pulmonology were the top three inpatient utilized medical services (AHD CHI, 2021). Level 3 Drug Administration, Comprehensive Observation Services, and Level 5 Musculoskeletal Procedures were the top three outpatient services for the facility (AHD CHI, 2021).

After outlining the demographics of the Nebraska population and each of the four hospitals' patient utilization, several trends can be seen. CHI Health Good Samaritan uniquely serves a rural population, as it is located in Kearney, compared to the others in urban environments. The outpatient utilization of services is almost uniform across organizations. It reflects the data found in the World Population Review showing that heart disease and lower respiratory issues are major health concerns for Nebraskans. Fewer total patient days were correlated with a higher percentage of net income.

Chapter 4 - Results

All data has been collected from a third-party website SEO tool called SEMRush. The data was collected between July 2021 and January 2022. Data directly from the hospital is not being used because Nebraska Medicine does not currently track any of its price transparency website information. SEO stands for Search Engine Optimization and is the process of getting website traffic data from free and organic results in search engines (Digital Marketing Institute, 2020). SEO tools are primarily used as a marketing tool to improve a business's website position in the list of search results. For example, if someone searches Google for "how much does it cost to get a colonoscopy?", Google

will list the links that people click on the most in relation to this search. SEO information can bring a business's services to the forefront of the results and entice more clicks on their company website. SEMRush uses Google's US database to gather data for Domain Analytics, and Keyword Analytics reports. Keywords are gathered by search volume and ranked from most popular to least. SEMRush reports will be broken down to show how the average consumer uses the Nebraska Medicine website. The type of reports reviewed in this study will be Domain Overview, Traffic Analytics, and Organic Research.

Stepping through Nebraska Medicine's price estimator website, onechartpatient.com, patients can find price information and learn how to use the tool. When they click 'start now', they are prompted to select their insurance type, and then they may search through procedures according to their coverage. Services are categorized by: Common Services, Birth, Clinic/Office Visits, Imaging, Joint, Laboratory, Procedures, and Surgery. Nebraska Medicine also offers interpreters and financial counselors who may be able to give more detailed information about services.

The Domain Overview shows comprehensive data related to onechartpatient.com. "A domain name is the text that a user types into a browser window to reach a particular website. For instance, the domain name for Google is 'google.com'" (CloudFlare, 2022). According to the SEMRush data, 29,900 individuals accessed the price estimator through Google between July 2021 and January 2022. The domain contains 35,800 backlinks or subcategories of services. This would be the exhaustive list of procedures and their more specific categories. 74.84% of searchers follow a backlink, while 25.16% do not follow a link beyond the home page. Nebraska

Medicine does not fund the promotion of this website; However, 87.24% of the traffic comes from an internal (branded) Nebraska Medicine link, and 12.76% comes from an outside (non-branded) source. Compared to the other top competitors in the state, Nebraska Medicine's estimator tool is being searched on Google the most. Bryan Health had 2,000 visitors, Methodist had 887 visitors, and CHI Good Samaritan had 0 visitors during the six-month timeframe. All competitors had a majority of their traffic coming through non-branded sources.

The Traffic Analytics report shows an all-time total of 185,700 visits to the onechartpatient.com home page, of which 65,700 are unique visits. Meaning that users are visiting the page more than once. On average, users viewed seven pages and spent 10 minutes on the website per visit. 57.06% of visitors accessed the website through their mobile devices, while 42.94% of visits were through a desktop device. The following graph shows traffic by source:

Traffic Sources
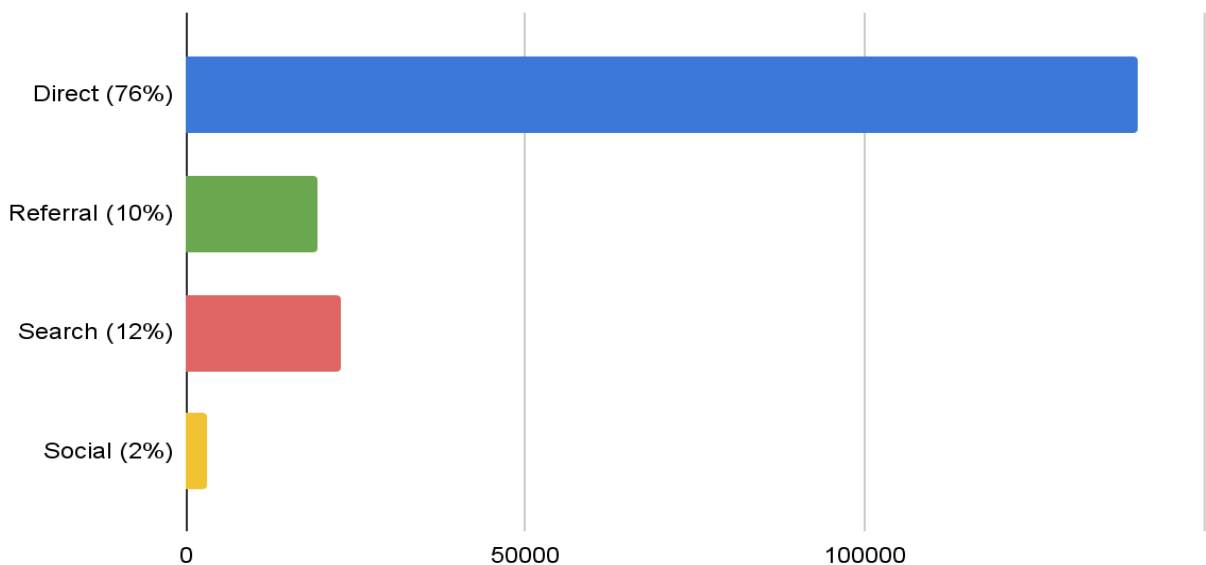
- Direct Traffic: website visits that occurred as a result of a user typing the URL directly into their browser.

- Referral Traffic: the segment of traffic that arrives on the website through another source, such as a link or another domain.

- Search Traffic: traffic that comes from visitors clicking on links on a search result page from a search engine.

- Social Traffic: traffic that originates from a social network or platform.

Sizing up Nebraska Medicine against its competitors, Bryan Health had 355,100 visitors and 148,900 unique visitors and was fairly consistent over the six months. Methodist Hospital had 289,200 visits and 121,800 unique visits, with their numbers trending upward over the last three months. CHI Good Samaritan had 7,800 visits and 5,700 unique visitors. Visitors spent almost twice as much time on Methodist's site than all the others, yet visited the least amount of pages per visit. Across the board, most users found the respective estimator websites through direct and referral traffic sources.

The Organic Traffic report is essentially a search function that meshes keywords to increase the probability of finding a website. The report aims to use all searches to compare rankings with competitors. Organizations can use it to help their website rank at the top of unpaid, organic search engine results pages. If an organization's website is not in a high rank in a search engine, it will not receive as much traffic. From here, the organization can determine if they would like to pay for a higher ranking in search engines or change the format or keywords on their website pages to generate higher traffic. The Organic Search Traffic Chart for Nebraska Medicine shows a steady increase in traffic to the price estimator website from January 2020 to January 2022. It

plummets around October of 2021 and is likely because surgeries were restricted during this time because of COVID-19.

Organic Search: Traffic chart

onechartpatient.com | US | All time

Potential patients found the website most often using the keywords: "one chart", "one chart patient", "unmc one chart", "patient portal", and "one chart login". Compared to competitors, "onechartpatient.com" had high traffic but was searched at a lower rate than "mysanfordchart.org" and "myhealthone.com", which are out-of-state competitors, Sanford Health and TriStar Health. The other local competitors did not make it to the report because of their much lower volume of searches and corresponding keywords.

Chapter 5 - Discussion

During the last six months of 2021, there was a growing use of Nebraska Medicine's price transparency tool. The use of the competitors' tools followed a similar trend but at a lower rate, indicating that a higher percentage of Nebraska Medicine's patients were informed about the estimator. Most Nebraska Medicine searchers used a branded link and a direct search to find the estimator. The high level of direct traffic may indicate that providers are writing down the website's name so patients can search for it directly and

that they are also educating patients on available resources. All competitors had a majority of their traffic coming through non-branded sources. This indicates that the organizations are not referring patients to their in-house price estimator. Bryan Health had a high rate of users not following any backlinks beyond the home page. This may infer that their website is not as user-friendly as the others because searchers are unwilling to look into the website beyond the first step. Nebraska Medicine had the lowest percentage of unique visitors, meaning many patients used the website more than once. This could indicate that patients were frequently referred to the website in its initial stages, but providers and the hospital did not continue education over time. A majority of searchers used their mobile devices rather than a desktop. It may be necessary for hospitals to make their websites more user-friendly on mobile devices or create apps in the future.

Nebraska Medicine's internal IT department does not currently track any of its price estimator information, which significantly limits the findings of this study. Additionally, information was only available after January 2020, limiting the time period. Additionally, a deeper search history data set was unavailable, which could have significantly increased the findings and implications for the study. For example, if searcher demographic information and specific search history linked to unique visitors were available, the study would have shown greater insight into consumer use and patterns. The number of searchers by insurance type was also unavailable and could have uncovered more information regarding employee or patient coverage.

The results of this study lay the groundwork to expand data about the price estimator tool. Data can be parsed from here to understand the connection between

searches, user demographics, and insurance types to create a target audience for services. There are limited studies observing the effect of price transparency tools. But, the preliminary findings of this study indicate a consumer desire for healthcare pricing tools. Increased awareness of the tool will become important in determining if the patient will receive healthcare services and where they may seek services. When comparing Nebraska Medicine to its competitors, future data will be easily differentiated because all the price transparency tools are able to show aligning trends. Competitor information could be used to streamline rates throughout the state.

The Nebraska Medicine Price Estimator Tool has unique features, allowing patients to compare services side-by-side and match services with their insurance type, and provides medical information interpreters so the website is easy for patients to understand. The tool itself could be improved by displaying quality metrics that are meaningful to patients and easy to understand. It should answer the questions, "What extra perks will the patient receive as a result of choosing our services?" and Why are our services superior to our competitors?" Additionally, Nebraska Medicine should inform patients about the tool and how to use it, market it, emphasize the benefit it has to the patient, and continually reevaluate the website over time.

Using the demographic information from the estimator tool could create a new revenue source for the hospital at a low cost. Nebraska Medicine could compare its search data to the Nebraska State Community Health Improvement Plan (CHIP) to determine if they align. If they do not align, the hospital could provide them with information to change their priorities to fit the needs of the local population. As stated earlier, Nebraska's leading causes of death are cancer, heart disease, COVID-19,

chronic lower respiratory diseases, and accidents. The state can award Medicare funds to reduce the level and severity of these diseases. However, if the local population is not actually seeking these services, the funds may be used more appropriately elsewhere. If the CHIP and price estimator data align, the hospital may be granted funds to improve its services or expand access.

Moreover, demographic data and user searches could be used in conjunction with target audiences to market services to the appropriate groups of people. If the hospitals target audiences, it could increase the utilization of services and, therefore, revenue. Targeting audiences allows the hospitals to improve the local population's health by encouraging disease maintenance. They may be able to target audiences through a reminder on patient portals, social media, or marketing materials on their websites. Services could be tailored to a more specific population. Suppose the hospital discovered that White males are searching at high rates for STD treatments, but hardly any of their STD clinic patients are White men. In that case, this population could be surveyed to understand why they are searching for the services and not actively attempting to pursue them. There could be several reasons, such as cost, access, or stigma against the diseases. However, more data would be needed to determine the exact social determinants or barriers to care.

Overall, advocates of price transparency expect health care price information will become a part of a patient's decision-making process when seeking out services and give patients the autonomy to choose the most high-quality care for the fairest value. In turn, this notion will significantly affect healthcare delivery and spending. Engaging

consumers in their health choices and healthcare planning will hopefully change the

healthcare system and make patients more equipped to manage their healthcare costs.

Bibliography

Altmann, J. (2008, September 25). *Reinhardt speaks frankly as leading voice on Health Care*. Princeton University. Retrieved February 28, 2022, from

https://www.princeton.edu/news/2008/09/25/reinhardt-speaks-frankly-leading-voice-health-care

American Health Directory. (2021, June 30). *CHI Health Good Samaritan*. ahd.com. Retrieved June 27, 2022, from

https://www.ahd.com/free_profile.php?hcfa_id=848962d06777c283a4b15e35249f65e9&ek=fc4acefb195814d66817f0e4237506cd

American Hospital Directory. (2020, December 31). *Bryan East Campus Profile*. ahd.com. Retrieved June 27, 2022, from

https://www.ahd.com/free_profile/280003/Bryan_Medical_Center_-_East_Campus/Lincoln/Nebraska/

American Hospital Directory. (2020, December 31). *Methodist Hospital Profile*. ahd.com. Retrieved June 27, 2022, from

https://www.ahd.com/free_profile.php?hcfa_id=1c88c9e84caa8236dc8786dbc46d19ab&ek=237c69ba545b8ae167adc32cbf87c30d

American Hospital Directory. (2021, June 30). *Nebraska Medical Center*. ahd.com. Retrieved June 27, 2022, from

https://www.ahd.com/free_profile.php?hcfa_id=d9c74fa6c48e079591bd21e12a377ae9&ek=5c072a59dcec3348875d05e05cc39a76

Association of American Medical Colleges. (n.d.). *Price transparency: Common definitions - AAMC*. Retrieved July 29, 2022, from https://www.aamc.org/system/files/c/2/450000-pricetran_commondefs.pdf

BCBS of Minnesota. (2022, January 1). *6 Benefits of Choosing an HSA Plan*. Bluecrossmn.com. Retrieved June 27, 2022, from https://www.bluecrossmn.com/shop-plans/individual-and-family-plans/6-benefits-choosing-hsa-plan

Briody, B. (2013, May 15). *Double mastectomies are rising, along with the costs*. The Fiscal Times. Retrieved February 28, 2022, from https://www.thefiscaltimes.com/Articles/2013/05/15/Double-Mastectomies-Are-Rising-Along-with-the-Costs

CloudFlare. (2022). *What is a domain name?* Retrieved June 27, 2022, from https://www.cloudflare.com/learning/dns/glossary/what-is-a-domain-name/

Digital Marketing Institute. (2020, December 14). *What is Seo and how does it work?: Blog: Online Digital Marketing courses*. Digital Marketing Institute Articles. Retrieved June 27, 2022, from https://digitalmarketinginstitute.com/blog/what-is-seo

Herman, B. (2016, July 14). *Healthcare spending growth rate rises again in 2015*. Modern Healthcare. Retrieved February 28, 2022, from http://www.modernhealthcare.com/article/20160713/NEWS/160719963

Fast facts about Nebraska Medicine: Nebraska Medicine Omaha, NE. Nebraska Medicine. (2022). Retrieved June 27, 2022, from https://www.nebraskamed.com/about-us/fast-facts

Gorman, L. (2006, October). *The History of Healthcare Costs and Health Insurance*. A Wisconsin Primer. Retrieved June 27, 2022, from http://www.wpri.org/BI-Files/Reports/Vol19no10.pdf

Heese, J. (2022, March 10). *2022 Nebraska higher education progress report executive summary*. Retrieved June 27, 2022, from https://ccpe.nebraska.gov/sites/ccpe.nebraska.gov/files/PR_Executive_Summary.pdf

Hospital price transparency. CMS. (n.d.). Retrieved February 28, 2022, from https://www.cms.gov/hospital-price-transparency

Kluender, R. (2021, July 20). *Medical debt in the US, 2009-2020*. JAMA. Retrieved February 28, 2022, from https://jamanetwork.com/journals/jama/article-abstract/2782187

Kurani, N., Rae, M., Pollitz, K., Amin, K., & Cox, C. (2021, July 20). *Price transparency and variation in U.S. health services*. Peterson-KFF Health System Tracker. Retrieved February 28, 2022, from https://www.healthsystemtracker.org/brief/price-transparency-and-variation-in-u-s-health-services/

Lomax, D., & Sun, S. (2020, May 1). *Price transparency: Friend or Foe*. Retrieved February 28, 2022, from https://www.affiliatedmonitors.com/wp-content/uploads/2020/06/CPI-Lomax-Sun.pdf

Nebraska Population 2022. Nebraska Population 2022 (Demographics, Maps, Graphs). (2022, January 1). Retrieved June 27, 2022, from https://worldpopulationreview.com/states/nebraska-population

The Organization for Economic Co-operation and Development (OECD) . (2022,

January 10). *Health Systems Facts. just facts. no bias. HealthSystemsFacts.org*. Health

Systems Facts. Retrieved February 28, 2022, from

https://healthsystemsfacts.org/?gclid=CjwKCAiAz--

OBhBIEiwAG1rIOs0L2Q0sZMUDBCZXd-XZfx2naSqDbDALM_pkaBt-1YFSBz19P-

_WaRoCb8UQAvD_BwE

*Organic research - understanding your competitors and find the opportunities to

compete with them*. Inquivix. (2021, December 24). Retrieved June 27, 2022, from

https://inquivix.com/search-engine-optimization-seo/organic-

research/#:~:text=Organic%20research%20is%20an%20analysis,be%20searched%20o

n%20the%20web

Paina, L. (2018). *221.654.81 systems thinking in public health: Applications of key

methods and approaches, 2017 3rd term - course directory*. Retrieved February 28,

2022, from https://www.jhsph.edu/courses/course/25144/2017/221.654.81/systems-

thinking-in-public-health-applications-

of#:~:text=Description%3A,actors%20contribute%20to%20policy%20outcomes.

Pinder, J. (2021, March 23). *PriceCheck: We're creating health cost guides, and covid-

19 guides, with our partners and communities across the nation*. Clear Health Costs.

Retrieved February 28, 2022, from

https://clearhealthcosts.com/blog/2019/04/pricecheck-across-nation-building-

community-created-guides-health-costs/

President Trump signed Executive Order to expand hospital price transparency. Association of American Medical Colleges. (2020, September 25). Retrieved February 28, 2022, from https://www.aamc.org/advocacy-policy/washington-highlights/president-trump-signs-executive-order-expand-hospital-price-transparency

Shinkman, R. (2014, December 8). *Price transparency: Where is it headed?* Fierce Healthcare. Retrieved February 28, 2022, from

https://www.fiercehealthcare.com/special-report/price-transparency-where-it-headed

Silets, A. (2019, November 18). *The Pros and cons of new Health Care Price Transparency Rule.* WTTW News. Retrieved February 28, 2022, from

https://news.wttw.com/2019/11/18/pros-and-cons-new-health-care-price-transparency-rule

Slaybaugh, C. (2019, July 2). *International Healthcare Systems: The US Versus the world.* Axene Health Partners, LLC. Retrieved February 28, 2022, from

https://axenehp.com/international-healthcare-systems-us-versus-world/

US Census Bureau. (2022, March 8). *American Community survey 5-year data (2009-2020).* Census.gov. Retrieved June 27, 2022, from

https://www.census.gov/data/developers/data-sets/acs-5year.html

20web.