Trends in Health Care:

DISRUPTORS AND OPPORTUNITIES

MEETING REPORT

Academy of Managed Care Pharmacy Foundation

8th ANNUAL RESEARCH SYMPOSIUM

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AMCP Academy of Managed Care Pharmacy FOUNDATION

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Overview

The AMCP Foundation, as the philanthropic arm of the Academy of Managed Care Pharmacy (AMCP), has a mission focused on advancing medication-related research and education. We have been advancing the collective knowledge about how managed care pharmacy impacts patient outcomes since we were founded in 1990. From our latest effort, we are pleased to present this summary of our 8th Annual Research Symposium.

Within our strategic priorities is a central commitment to facilitate innovative research about the evolving health care environment. This year's symposium, under the theme *Trends in Health Care: Disruptors and Opportunities*, embodies that commitment.

A certainty in health care is the constant pace of change and its intensity. This year's symposium addressed those factors having the potential for disruption of health care services, and implications if stakeholders fail to address the significance of the emerging trends. Within this report are findings related to trends on:

- Drug pricing and spending
- Innovative and curative therapies
- Health coverage
- Accelerated drug approvals
- Social determinants of health
- Population health management
- Big data and health IT
- Industry consolidation.

In exploring future trends impacting health care delivery, we examined the views of key stakeholders, including:

- Employers as payers and those involved in health care plan design and selection,
- Patient and consumer groups concerned about the determination process for access to cost effective health care services, and new therapies,
- Physician groups, hospital systems, IDNs, ACOs, and others integrating medical and pharmaceutical therapy,
- Health plans and PBMs, and others involved in transitions to value-based plan designs, and
- Policy makers at the federal and state level contemplating actions that can significantly impact the future delivery of managed care pharmacy services.

Facilitating research is only part of our process. We also are committed to broadly communicating our findings beyond AMCP members and those in managed care pharmacy, including payers, patient and consumer groups, other health care practitioners and organizations, pharmaceutical manufacturers, and pharmacy educators.

The AMCP Foundation is proud to partner again with Pfizer, Inc. in developing this new body of knowledge, and pleased to have joined forces with Xcenda, our research partner. We also appreciate the support of Genentech and Merck in helping sponsor this year's research symposium. Companies like these that place a high priority on the generation of new evidence – *and* – on the adoption and use of that evidence are industry leaders.

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CHALLENGE #1: ESCALATION OF HEALTH CARE COSTS

Despite considerable efforts, health care spending is growing more quickly now than when the Affordable Health Care Act was passed and credible estimates indicate that one in every five dollars will be spent on health care. In fact, the CBO says by 2028, 30% of the federal budget spending will be on health care and if you add social security, 50%. Obviously, we won't ever get to spending 50% of the budget on health and social security which means that you're getting ready to see solutions that resemble doing surgery with a sledge hammer. This cannot continue, especially given that you can't get more money from Medicare and there won't be a tax increase.

The deficit is up to unbelievable levels and that's going to put downward pressure on all health care spending. And, at the state level there's no money there either. In fact, we've sacrificed K-12 education on the backs of medical care, so the states have no more money. Employers, the people many of you deal with, are really struggling with escalating costs, and, as a result, are pushing more costs onto their employees. So, it is the consumer who is getting it and rising health care costs now are huge challenge for them. Remember when we are spending money in health care today it's not the faceless government, it's not the faceless state, it's not the faceless employer, it's Mrs. Smith at Fifth and Vine. You must remember that from now on. The new money we are spending is out of the pocketbook of the American people and that is really challenging for our industry. A recent statistic puts this in perspective: 75 percent of all seniors in Medicare have less than $75,000 in savings. Think about what that means.

> You must remember that from now on. The new money we are spending is out of the pocketbook of the American people and that is really challenging.

CHALLENGE #2: ERA OF CONSUMERISM

Number two, we are now in the era of consumerism in health. Health care is not immune from the pressures of new consumerism and new consumer expertise. It used to be, "This is my hospital. You'll fit in to my round hole with your square peg." It used to be, "This is my doctor's office. You'll do what I say. You will wait for me, because I am really important and so is my time. Things are changing. For example, millennials are clearly saying, "I will not sit around in a doctor's office. I will go where I have to go and do what I have to do to have health care fit me just like everything else in my environment has to fit me."

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CHALLENGE #3: PREVENTABLE CHRONIC ILLNESS

The trends here are very scary and something we do not talk enough about. There is a storm of preventable chronic illness washing over a delivery system that we cannot afford. It is serious. The data has a mix of news: Good news: smoking is down. Bad news: 17.2% of Americans still smoke tobacco and e-cigarettes use is increasing. Inactivity: 23% of Americans get no more exercise other than getting up and going to work. And of course, the obesity prevalence is extraordinary: it's amazing that now 40% of Americans are obese. Diabetes now affects

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10.5% of the population. As a result, cardiovascular death rates and premature death rates are now up for the first time since I've been tracking this for over 20 years. Additionally, we are increasingly learning about a sea of despair moving through white and rural America that sounds very similar to the malaise that has so long affected African Americans, Native Americans, and Hispanics. When you don't believe in the possibility of a meaningful future you don't take the steps to have a healthy future.

A consequence of chronic illness is that often multiple providers and social support professionals, operating in multiple care settings are required. This picture is usually typified by fragmented and uncoordinated care arrangements. Also, medically necessary social support that people need - Meals on Wheels, home health care aides, and transportation to the doctor's office - are often in short supply, especially in rural America. If no one pulls all that together, people fall through the cracks with the resultant care fragmentation.

> 50% of health care is inconsistent with the best science. We've known it forever. Health and medical care are very complicated.

The burden of chronic illness is so great that we will never be able to medicalize your way out of this problem.

CHALLENGE #4: CARE QUALITY SUBOPTIMAL

It is estimated by some that 50% of health care is inconsistent with the best scientific evidence. We've known for a long time that the quality and safety of medical care is suboptimal. Health and medical care are very complicated. We've known since 2000 with the Errors to Human Report, that we kill a plane load of people a day in this country from medical misadventures. It has not changed significantly. When it comes to waste in care delivery, published reports indicate that it has increased from $750 million as documented by an influential 2012 National Academy of Medicine report to a more current estimate of one trillion dollars in waste. Now, medical error may be the third leading cause of death in the United States. Serious issues. As others have embraced, "We can no longer hope for zero, we must plan for zero."

CHALLENGE #5: INNOVATION

How do we translate innovation into clinical practice appropriately? For example, drug prices are going up despite great attention and lots of debate and discussion. Recently, I had the opportunity of serving on a National Academy of Medicine Committee on Ensuring Patient Access to Affordable Drug Therapies, charged with making recommendations on lowering drug costs. Despite the best efforts of very smart people, it was difficult to achieve consensus regarding the best way forward. For example, there is great tension between pharmaceutical manufacturers and the PBMs, each one blaming the other side for price escalation.

Regarding other innovation priorities, we're now firmly in the genomic era. Recently, CMS announced that Medicare will cover direct-to-consumer genetic tests. One small sample screen will provide information about all known gene mutations for that individual. The challenge is what to do with this information, especially when so much of it is of uncertain clinical significance. As a result, when a patient consults their physician with their results, the physician and the patient will often be poorly prepared to make personally appropriate decisions that lead to cost-effective quality and safe outcomes.

Increasingly, we're focused on enhancing the patient experience to achieve quality care outcomes, enhanced access, greater reliability and improved population health. What's exciting at this historical moment is that we're advancing the integration of population health and the patient's experience with care. In the past, the delivery system was mainly preoccupied with chronic care management, and disease management. As we move from volume to value reimbursement, there is an increasing need to care more about the upstream issues concerned with individual lifestyle and community precursors of disease. As we continue to incorporate genetics into the clinical armamentarium, we would be wise to include behavior, resilience, and spirituality factors as well. We need to understand the context in which people live and be able to influence it. We need to understand how factors such as despair and social determinants fit into the clinical continuum that must be addressed if we are to achieve for positive outcomes. We must bring our clinical focus into the community and the community must participate in the process of visioning needs and identifying resources.

At this historical moment, the integration that becomes key is this integration of population health and all these elements around the patient's experience with care.

The concept of defining, producing and documenting value is now center stage. The Secretary of HHS is emphasizing the word "value" in his presentations. He has announced bold steps, and is not intimidated by disruption in the industry. Change must occur. We must get to a continuously learning health system. Science, informatics, incentives, and care culture must align for continuous improvement and innovation. Best practices must become seamlessly integrated and embedded into care processes. Patients and families must be as active participants throughout. New knowledge must be generated and captured through the care delivery experience. We are missing out on the data dividend. We have so much information, but we must plow that back and decide that by 2020, 90% of clinical decisions will reflect best available evidence. How do we do this? By focusing on the Fundamentals -data and analytics, clinically integrated teams, moving patients from hospital care to ambulatory settings whenever feasible, and teaching providers new skills and competencies. For example, competencies in telehealth and population health deserve continuing education attention.

Data and analytics are essential to the future of improved care delivery. We need to pull providers' data together, across settings of care, analyze it, liquefy it, then drop it into the clinical delivery system at the point of care for individually tailored clinical engagement. action. For example, if clinicians are to provide personally appropriate care for people with rare genetic diseases, they will often require alerts built into the EMR. In the era of value-based care, clinicians will need to know the inappropriate diagnostic procedures, and high cost-low quality referring facilities. Also, the clinician needs to know how to connect with public health for total care management. Integrated delivery systems require data that lets them identify people prior to getting sick, and then engage with them before they become seriously ill. If we're going to get this data we're going to need someone to integrate it. The head of the ONC is fighting upstream to make this integration happen and, as such, requires all our support.

I am encouraged by private sector initiatives such as the new Argonaut project and Apple's new project to give patients useful personal medical records on their phones. They'll be the ones to do the interoperability going forward. We must embrace disruption.

Telemedicine is a powerful disruptor. In community pharmacies, we're seeing kiosks being placed so patients can connect while they're in the pharmacy.

We will see a lot of disruption with health plans as they now acquire new partners including drug stores. This is a strategy to have multiple touch points and value chain conversions to manage total health care costs. Insurers, physician groups, systems, retail organizations, they're all seeking to compete as high value care and financing networks. They recognize the necessity of capturing the whole patient and engaging over multiple touch points.

Data and analytics are key here. Imagine you're sitting at your doctor's office and you receive a diagnosis with a serious illness. Other than here's a guaranteed cure, what could your doctor say to give you peace of mind? What if they could say: "I can make a treatment recommendation based on the latest clinical trials and evidence generated by the researchers of ACPM, but also for every patient like you with this illness, and I can tell you with a specified range of confidence which treatment has the greatest chance of success for a patient specifically like you."

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We need to better understand how people think about their health and their health awareness. Questions like "How likely is it you'll have a health event in the future? How likely is it if a clinician provides advice that the patient can actually do it? How likely is it that you believe that if I do what you're telling me to do, and you taught me how to do it, that it will make a difference...or is it just all fate? How can the clinician help the patient to learn to do things differently and build self-confidence? Are small steps better than prescribing big steps?"

Finally, let's emphasize the challenges and opportunities presented by innovation. Let's remember that innovation for innovation's sake is not interesting. We need your collective intelligence to help answer some key questions such as: "Does this new thing work? Secondly, does it have clinically significant advantages to other therapeutic alternatives to treat the same condition? Does it satisfy an unmet need? Is it replacement or additive? For whom is it appropriate? And under what conditions? We really must know the population of appropriateness and under what conditions. And then, does it change clinical management? Is there a clinical utility? Are there decisions that will be made with the new technology that wouldn't have been made? How does it perform in the real world, in real life under real conditions? Which professionals should use it and in what settings?" And then, finally, we must care about costs.

Given the cost pressures and medical cost inflation characterizing today's delivery system, we must ensure that innovation enhances quality and is cost effective. I am concerned whether we will use the change intelligently because, currently the 'system' does not seem fully committed, or sufficiently organized. It's still every person for themselves trying to get as much money as they can. Given the downstream economic consequences of the status quo, I worry that we will find it necessary to do economic cost control surgery with a sledge hammer, rather than via precise adjustments. Let my note of pessimism inspire you to continue to work harder than you have always worked, because if you really love people and you're a concerned health professional, this historical moment requires the best of us as individuals and from our organizations.

Kevin B. Sneed

What's this health care transformation thing all about? Over a 10-year period, I have had to readjust my way of thinking. As we continue to discuss managed care changing from volume to value, we must ensure we have the means of collecting data on value, putting it into a format and aligning it with metrics and outcomes. How do we get this in a report? What structures are integrated? How do we communicate this information effectively to maximize financial outcomes?

As we continue to discuss managed care changing from volume to value, we must ensure we have the means of collecting data on value.

Presently, many physicians are paid through a fee-for-service model forcing high volume. A 99213 (Level 3) encounter for having seen a patient is not that much money. If a patient has multiple serious issues, they may be a 99215 (Level 5), requiring far more time and attention from the physician, typically up to an hour in the exam room. Reimbursement typically starts with Medicare reimbursement values. When it comes to managed care, there may be an upcharge anywhere from 100 to 150% of Medicare reimbursement. As a PharmD, I could not see enough patients to pay for my time, my salary, overhead and everything else if I'm getting reimbursed at only a 99211 (Level 1) for a 20-minute encounter. You begin to understand that this is a losing proposition for us in terms of billing in that environment.

Barriers many of our counterparts in community pharmacy encounter include DIRs, and MTM. I want us to get to a point where we are more engaged from a patient care standpoint. PBMs and clinical reimbursement have a major disconnect from community pharmacy all the way into medical practices. It's happening all the time because physicians come to me when they get that phone call from the community pharmacist and they say, "Why are they asking that question?" I say, "They do not have access to your EMR. They don't know why you did what you did." Until we begin to improve communication, I'm not sure we're going to reach our goals in terms of value moving forward.

As we move into more of a metric-driven system, we find ratings we are being measured on have medication value attached. Anywhere from 25 to 33% of all the measures of evaluation have a medication implication attached. Medical practices all over the country are beginning to understand the value of a medication specialist as part of the team. All outcomes will not be achieved if there is no medication specialist providing surveillance, outcome measures, education, and everything else involved. With managed care involvement, pharmacy can move into the capitated space for provider status.

The only individual who really knows what is going on with all of Joe's medications is his community or managed care pharmacist. A medication is not just a medication name anymore.

My attempt to explain the role of pharmacy in the complex health care system involves "Joe the Plumber." Overtime, Joe's health conditions list expands. He goes from 1 to 13 medications quickly. Joe has the impression that all of his physicians gather on the phone at 10 o'clock Friday mornings and spend 30 minutes coordinating his medications. We all know that's not true. The only individual who really knows what is going on with all of Joe's medications is his community or managed care pharmacist. When talking to medical groups, I explain how pharmacists are an angel on their shoulder. We are

here to coordinate a care plan among all groups. A medication is not just a medication name anymore. We need to optimize medication by having the best evidence for the best medication at the right time, for the right patient.

Proactive analytics helps facilitate assessment of medication therapy by collecting information in real time from the patient. Managed care should be involved in collecting this information. But how do we teach people to do it? Workforce development is extremely important.

What do these metrics look like? We are evaluated, for example, on metrics like all of these: cause readmission for diabetes, heart failure, multiple chronic conditions, etc. Pharmacists are involved in metric system reporting and need to engage on this level through technologies like telemedicine to be valued. I think this is something managed care should get into. Many studies show the benefits of having pharmacists involved, from a collaborative care practice standpoint. Team based care is the very best care, and we must continue to push hard. I'm almost afraid to say it, but it appears that data and analytics may become more important than the clinician.

Many studies show the benefits of having pharmacists involved, from a collaborative care practice standpoint. Team based care is the very best care, and we must continue to push hard.

Collecting all the data required in reporting is leading to burnout. Physicians are burned out. Our pharmacists are burned out. Everyone is burned out, but it's the only way we can measure the quality of care we are giving. Through the Creative Destruction of Medicine, CDOM, this is how some of the metrics can be collected. It provides evidence that we have improved overall outcomes and medication management. We need to find a way to integrate data and attach it to medical benefits, so we can achieve the proper outcome, and the proper reimbursement for physicians, and the entire health care team. Instead of waiting a 90-day period, what if I could predict at day 10 or day 14 whether medication initiated 10 days earlier is going to hit the mark by day 90? How could we achieve that? We have multiple projects around proactive analytics to collect information and use proactive analytics to make sure we will hit the mark with each patient.

The very last thing that I'll leave you with is students in our environment. I'm a futurist. I designed the pharmacy of the future. There are about 8 or 9 areas that you can't commonly walk into a community pharmacy and find a service for that, but we have EMR and the mobile technology. It looks like Star Trek when you walk in. It's a regular pharmacy, but through this we are teaching students to think differently.

Hopefully we will spark a thought in you, because if we don't, we already understand what will happen. Do not forget why we are here. Last year, my patient of 15 years almost died in a hospital from a very serious complication. After her successful battle, she asked me "Dr. Sneed, how are you doing? Are you okay?" At that moment I almost broke down, because she almost died, and she was asking me how I was doing. It has nothing to do with me. We are here to serve other people and to ensure they live the fullest life they can. We have a great responsibility.

We need to find a way to integrate data and attach it to medical benefits, so we can achieve the proper outcome, and the proper reimbursement.

Susan A. Cantrell

Significant and transformative changes and disruptors emerge before our eyes. This 8th Annual Research Symposium will aid in preparation for these changes, but we must get in front of these changes, so we can shape the change in ways that most benefit patients and the populations we serve. This is what AMCP and the AMCP Foundation strive to do.

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AMCP LEADERSHIP

One of the biggest trends AMCP has focused on is the move from traditional fee-for-service care and models to a value-based system that rewards improved patient outcomes. This is a game changer. We at AMCP have devoted a great deal of time and energy to help shape this model as it relates to managed care pharmacy. Value based care, for example, has been a focus of several of our recent partnership forums.

AMCP partnership forums are small invitational events that gather diverse stakeholders from across the continuum of health care and from across the country to discuss and develop solutions for specific challenges. At the end of the forums, the attendees develop consensus recommendations and a plan of action. A recent forum focused on challenges and opportunities in implementing value based contracting models. This laid out operational and regulatory hurdles to value-based contracting regarding pharmaceuticals and resulted in an important consensus set of definitions to help advance the model.

Another forum we held focused on patient reported outcomes, the missing link to defining value. This one developed needed definitions as well as parameters on using patient reported outcomes or PRO's to determine value and care. Our October 2018 follow-up forum on PROs was titled, "Building the Foundation for Patient Reported Outcomes, Methodologies and Infrastructure." Again, trying to move the ball forward on this important issue.

In November 2018, we will host a forum focused on implementing value-based agreements for pharmacy and medical benefits in an integrated delivery network. We are proud of our track record with these forums as they have resulted in best practice road maps being put into practice in health plans around the country. They have formed the basis of legislation, moving through Congress. They have resulted in the creation of new entities, including our Biologics and Biosimilars Collective Intelligence Consortium (BBCIC).

BBCIC Biologics & Biosimilars Collective Intelligence Consortium

MANAGED CARE SUCCESSES

Look at how our health care system has brought managed care principles to Medicare through Medicare Advantage programs. Just last month CMS announced that on average Medicare Advantage premiums will decline while plan choices and new benefits have increased. In addition, Medicare Advantage enrollment is projected to reach a new all-time high with more than 36% of all Medicare beneficiaries projected to be enrolled in Medicare Advantage in 2019. Managed care was a disruptor to the government run health care system for seniors and it is starting to pay off.

Another game changer is the advent of biosimilars. BBCIC actively engages in post marketing surveillance of biologics and their corresponding biosimilars. It will help give assurance to providers, patients and others for safety and effectiveness. Proactive monitoring was mentioned numerous times at a recent FDA

hearing on biosimilars and the biosimilars marketplace. We at BBCIC stand ready to assist. We are also responding to the FDA's Biosimilars Action Plan, suggesting ways to educate patients and providers about biosimilars and biologics. Biosimilars have the potential to revolutionize the market for complex therapies and provide competition, potentially dramatically lowering health care costs in a way that generic drugs did a generation ago. In the national dialogue on health care, concerns about skyrocketing medication costs and what the government can and should do to address these costs is getting louder. We need to stay ahead of this movement and have a voice in the discussion or we might find ourselves with little choice but to implement a one size fits all on how medicines are prescribed and paid for in this country.

In many ways, managed care pharmacy is at the nexus of health care delivery. We are ideally suited to address many of the emerging changes that are coming our way. We have much to be proud of. Managed care pharmacy principles underpin the remarkably successful Medicare Part D program. Coincidentally we are about to celebrate the 15th anniversary of the signing of the bill that created the Medicare Part D benefit. Managed care pharmacy principles have led to record levels of generic utilization, which in 2017 accounted for about 89% of all prescriptions dispensed in the U.S. but only 26% of overall drug costs.

In fact, generics are a great success story in the U.S. health care system. They've saved almost 1.7 trillion dollars in the past decade alone. Managed care pharmacy principles keep tens of millions of patients safe from potentially dangerous interactions and other misadventures through monitoring programs and efforts to crosscheck prescriptions. They contribute to solutions to address the opioid crisis as well. These principles create a structure that allow patients to access the pipeline for very important, high investment and high cost medications coming to market. We can afford innovation without breaking the bank.

Who would have thought just a few years ago that many of us would be wearing a device with an electrocardiogram sensor in our Apple watch? But it raises all kinds of questions speaking of patient reported outcomes. What does a watch like this mean for consumers? For medication use? What does it mean for health care in general? Is this something that managed care should cover? How can we maximize the consumer health movement to improve overall help? How will we pay for these devices and their utilization? How will we collect and use the data? The only constant in health care is the constant state of change we are immersed in right now.

If we do not take a proactive stance and get involved ahead of these changes, we will constantly play catch up. Some disruptors will make us say, "Why didn't we think of this years ago?" And others may be a challenge to the way we do business.

Every change must focus on one goal: Improving and enhancing patient care. An impressive phenomenon I heard about recently is something adopted by Pfizer's internal medicine unit. At each meeting is a red chair meant to symbolize the patient. It is intended to remind everyone in the room that the patient is at the center of everything the group aims to do.

Change will always be with us and to embracing change requires that managed care pharmacy as an industry continue collaborating with health care systems and all our colleagues in the broader health care environment. Methods of practice are changing, not just in managed care pharmacy but across the spectrum of health care. We are all in this together. AMCP's members use sound, scientific principles to improve health care for all and we want to continue that.

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Karl Kilgore

In 2017, we began the practice of presenting an AMCP Foundation Best Poster Award to a senior investigator with an outstanding abstract related to the theme of the Research Symposium. The award is presented in partnership with the Journal of Managed Care & Specialty Pharmacy. Karl Kilgore, PhD, is the Director of Advanced Analytics at Avalere Health and is the recipient of the 2018 AMCP Foundation Best Poster Award.

BACKGROUND

It is no surprise that disparities in health exist among individuals with differing socioeconomic status (SES). In the past, research has primarily focused on poorer outcomes coming from those of lower SES and determined that this disparity existed due to a lower quality of health care provided. We now know that quality of care is not the only factor affecting a patient's overall health. Social Determinants of Health (SDoH) have become a key player for large companies working to improve population health. For instance, Centers for Medicare and Medicaid Services is reviewing proposals for Medicare Advantage Plans to cover transportation or food as a covered benefit. The research being done at Avalere Health is helping us understand what social determinants of health are, how they are related, and how we can use data gathered to improve health outcomes. Specifically, we are analyzing the impact of SDoH on medication adherence (MA) using two different models.

A two-year trial by National Quality Forum (NQF) to risk adjust certain performance measures for social risk factors revealed challenges associated with obtaining data on these risk factors, including data granular enough to accurately reflect individuals' social risk.

Health plan claims databases, electronic health records (EHRs), and other member data typically do not capture social determinants of health (e.g. income, education, access to transportation). Aggregate proxies are used to help us better understand the data that we have, even when it is not ideal.

- Individual level proxy: dual status, Low Income Subsidy (LIS)
- Aggregate Proxies: characteristics of residential areas gathered from survey data, research studies, government funded studies, etc., that are imputed down to the patients/members who live in that neighborhood

GRANULARITY: THE SIZE OF THE NEIGHBORHOOD YOU USE TO CALCULATE YOUR PROXIES

In order for SDoH to be included in risk adjustment for payment or performance, value-based payments, and quality measurement, it is essential for us to better understand how to obtain social risk factors through granular data. This study compares two models relating individual MA outcomes to a set of similarly defined SDoH proxy variables calculated from two different levels of aggregation: 9-digit ZIP Code (ZIP9) from a proprietary commercial database vs. Census Block Group (CBG) using the American Community Survey (ACS). In terms of granularity, there are approximately 250,000 CBGs in the U.S. vs. over 30 million ZIP9 residential areas: the ZIP9 level provides data that is 120 times more granular than CBG.

OBJECTIVE AND METHODS

The objective of this study was to compare proxies for individual level SDoH drawn from two different neighborhood sizes, CBG vs. ZIP9, in modeling health care outcomes, specifically three standard MA measures. In order to gain an accurate comparison, we tried to hold as many variables constant as we could. We were able to hold constants the set of aggregate proxy SDoH, the sample of patients, outcomes or responses modeled, and the

statistical analysis performed. We varied only the granularity of the aggregate proxies.

The patient sample was extracted from a national claims database and included 1.7 million Medicare Advantage beneficiaries continuously enrolled in 30 Medicare Advantage organizations, throughout all 50 states and the District of Columbia. We then ran each beneficiary through a software that generated their nine-digit zip code. Beneficiaries were then matched to household SDoH variables based on their address to data from American Community Survey, indicating CBG level, and the commercial market research database used, indicating ZIP9 level.

The five common explanatory variables for SDoH in the two databases included income, education, marital status, home ownership, and race. Outcomes measured were individual-level binary indicators of whether or not the member qualified for the numerator of 3 Pharmacy Quality Alliance (PQA) MA measures (cholesterol, diabetes medications, hypertension), which are used in the CMS Five-Star Rating System for Part D Medicare Advantage plans. Data analysis performed included a generalized linear mixed model regression looking at main effects only, with a cluster effect for health plans. CBG and ZIP9 predictors were analyzed separately, with parameter estimates, standard errors and significance levels contrasted.

RESULTS

Generally speaking, all SDoH variables were significantly predictive of medication adherence for each of the three measures observed, regardless of aggregation level. However, predictors at the ZIP9 level yielded statistically significant parameter estimates nearly twice as often as CBG. This was seen primarily for income level and home ownership categories. Difference in number of significant effects appeared to be the result of both larger parameter estimates and smaller standard errors for ZIP9 compared to CBG.

In order to view the data more accurately, we developed a risk adjustment model for health plan performance on PQA medication adherence measures. This process involved 45 Medicare Advantage plans, and compared unadjusted performance with risk-adjusted performance by member dual eligible/low income subsidy (LIS) status or for additional SDoH measures. Findings revealed that adjustment for dual eligibility or LIS status makes little to no difference on plan ranking, while adjusting for SDoH results in plan ranking changes. Further, the model showed that, after adjusting for other SDoH characteristics, dual-eligible members actually had better MA than non-duals who had low income but did not qualify for dual-eligible status.

This research revealed that while there remains a great deal of conflicting opinions out there regarding individual level proxies and SDoH, it is proven that SDoH are highly associated with medication adherence.

Altogether, this research revealed that while there remains a great deal of conflicting opinions out there regarding individual level proxies and SDoH, it is proven that SDoH are highly associated with medication adherence. When using aggregate proxies for individual-level characteristics, smaller neighborhood sizes can provide a more precise measurement of the sociodemographic differences which exist within the population and their association with health outcomes.

In closing, I would like to thank the principal investigator for this project, Dr. Christie Teigland as well as Dr. Zul Pulungan for their work and collaborative efforts on this project.

New Research Findings from AMCP Foundation: Anticipating Disruptors in Health Care

Breanna Popelar

"We have Star Wars science and Flintstones delivery." Managed care is part of the solution and the challenge. Because of these competing pressures to drive medical innovation while controlling costs, the AMCP Foundation decided to focus its next generation of trends research on how we can leverage those demands to make cost-effective, affordable integrated patient care a reality. The AMCP Foundation has been conducting environmental scans to inform managed care pharmacy practitioners and the broader health care sector for more than two decades. The most recent work focuses on disruptors and opportunities to make the body of knowledge as relevant and actionable as possible. Not just what do we know, but what can we do about it.

In conjunction with the Foundation, Xcenda did a broad trend scan to identify 30 topics impacting health care. We convened a working group of thought leaders to get insight on these areas resulting in six key trends with two global influencers. The global influencers which affect all key trends are: 1) social determinants, and 2) a combination of data, artificial intelligence and health information technology. Each of the six key trends were researched in detail including 21 one-on-one extensive interviews with thought leaders. We ended by asking 70 payer respondents spanning ACOs, IDNs, health plans, and PBMs, "what has most impact on health care?"

Drug pricing was ranked as having the most impact with 93% of survey respondents, classifying it as very or extremely impactful followed closely by innovative curative therapies and industry consolidation. Key trends are interwoven and interrelated. The central issue identified was affordability. When we think about affordability, we must consider drug pricing as a small piece of larger health care spending. Calming the madness and streamlining the system is a complex problem to solve, and there are endless stakeholders that need to align to do so.

In 2014, a curative therapy for Hepatitis C rattled managed care. More recently we've seen the dawn of biosimilars, gene therapy, and CAR-T. Of payers interviewed 88% feel innovative and curative therapies are strongly impact the future of health care. Innovative therapies are causing a ripple effect, in the sense that how we think about care delivery, payment, patient selection, all of this is evolving, and it's driven by the science. Much the evolution that we're seeing in health care today, not just the advancements in the treatments themselves but broader questions. How do we best provide the benefits of new technologies to patients? How do we fund these? Scientific dreams of precision medicine and curative therapies are fueling financial nightmares.

What else is keeping folks up at night? The other challenges that you see up here include concerns around reimbursement mechanism, consumer

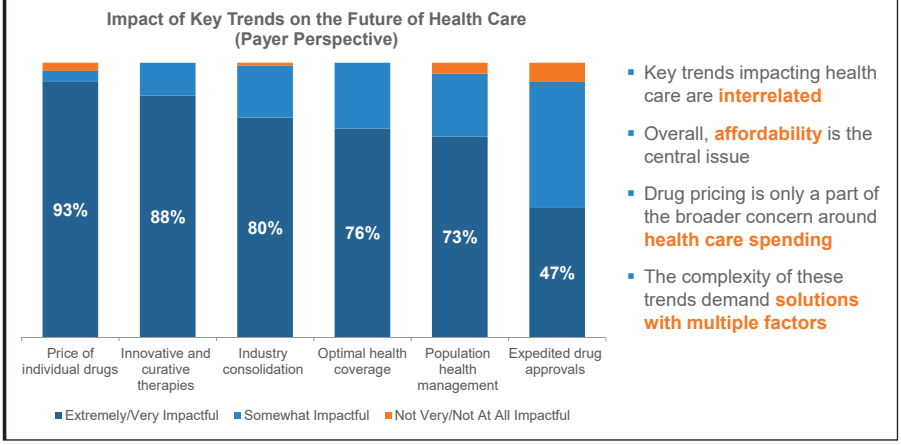
expectation management, and robust supporting data. In addition, questions remain around how we can overcome the challenge of bringing therapies to market quicker, in a timely fashion. How do we effectively educate providers from a clinical perspective as they take more financial risks? How do we improve access to innovative therapies? First, make it affordable or at least cost effective including drug cost, delivery, auxiliary service, and patient segmentation. Secondly, figure out a better way to pay for and reimburse these therapies, fix the model. Third, educate and engage all the stakeholders. The caveat is if we uproot the system that brought life to these technologies, if we remove the incentive, the innovation might stop dead in its tracks. Limiting use of expensive treatments to those who will derive most benefit could potentially result in savings down the road. And finally, we need to leverage technology to drive value. We might need to use big data to track patient outcomes for value-based contracts for an innovative therapy.

We see the broad impacts of technology coinciding with increased patient involvement, many of those who formerly did not have access to technology now do. Opening a whole new world of opportunities to learn about, track, and improve their health, not to mention the data that's now available. In addition, artificial intelligence is bolstering predictive analytics. Companies are using AI to assist their biomarkers to more efficiently define the patient populations and accelerate the clinical research process, Roche's acquisition of Flatiron is a good example. And finally, while the innovative therapies themselves are an inherent disruptor, we're also seeing things like the right to try movement coming into play as well.

In 1965, President Johnson signed Medicare and Medicaid into law resulting in cost escalation. This warranted President Nixon to pass the HMO Act in 1973 to reduce costs. Privatization started in the '80s and by the '90s we saw health care costs rising at twice the rate of inflation. In 2010 President Obama signed the landmark ACA requiring all Americans to have insurance. Coverage provides access to a wide range of basic preventative measures. It reminds us to improve health through responsible health care consumption. 27 million (12.2%) U.S. adults are uninsured as of 2017. Average premiums doubled between 2013 and 2017, and despite being nearly $20,000 for family coverage in 2018 premiums are expected to increase by 2019. To put that in perspective, we're talking over $1600 per month in premiums for the average family which is significantly more than the mean U.S. mortgage payment of about $1100. Coverage is necessary to access treatments and services, but despite expansion to over 20 million Americans with the passage of the ACA, we still have a significant number of Americans uninsured and premiums rising.

Costs are rising, and burden is borne by the patient. For example, workers contributions are increasing disproportionately versus that of the employers. Since 2012 workers contributions have increased approximately twice as much as employer contributions and this is significant considering over

While Drug Pricing Took the Lead, All Key Trends Were Identified as Being Impactful on the Future of Health Care



half of Americans are covered by employer-based insurance. We are not taking collective responsibility. There's division among the stakeholders and a recurring theme of misaligned incentives. Secondly, our current system is not serving us well, health care financing is based on a 12-month cycle, preventing us from thinking and acting in the long term best interest of the patient and potentially hindering solutions such as paying for high cost treatments in installments over time or even preventing families from utilizing their coverage because they can't afford their annual deductible. Lastly, our underlying, but evolving fee per service mechanism are still incentivizing physicians to provide high quantity over high quality care.

Disruptors like Kaiser with closed systems are better at coordinating care and controlling costs. Employers are contacting health systems or providers directly so circumventing traditional pathways seems to be a theme. Amazon, Berkshire, J.P. Morgan, Venture, are saying "we're gonna pick this up and we're gonna fix it ourselves." People less qualified or outside of the realm of the traditional model, will pick it up and make it better. Amazon will do this with or without us, let's ensure it's with us. Public demand is going to be critical to invigorate change, both the system of payer as well as payment reforms. We need that public demand in place to make this happen and this is becoming the case.

Matthew Sarnes

The concept of affordability and value is not just about drug costs, it's about controlling overall health care costs. In fact, pharmaceutics remain one of the vehicles to get the most return on investment per dollar spent. Despite the value pharmaceuticals bring, there is urgency to control drug pricing due to their rising costs. They currently comprise about 10% of overall health care spend in the U.S. and are forecast to be 15% over the next several years. Over 87% of managed care stakeholders surveyed rank controlling drug costs as the most important issue. Forcing factors driving this focus on controlling drug spend include the government and the Trump administration blueprint.

Cost of drugs in the U.S. are in the press daily partially because curative therapies or therapies which change a death sentence into chronic disease come with a substantial cost. Because many of these therapies are one time treatments or administered over months instead of chronically, we're switching to a model where you may need to pay up front. This is putting a lot of pressure on the existing reimbursement system and causing us to adapt to new payment models. One of the stakeholders we interview summed it up nicely as they astutely pointed out that the "conversation around drug pricing is forcing America to confront the fact that everybody cannot have everything all the time. That's a game changer." Drug pricing will be a change catalyst across our industry.

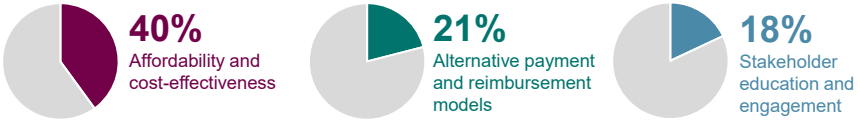
> Conversation around drug pricing forced America to confront that everybody cannot have everything all the time.

System fragmentation is another key factor driving drug spend. What may be good for one part of the health care system may not be good for another. As an example, the shifting site of care maybe good for lowering overall costs but it may put tremendous pressure on hospital systems by decreasing their revenue stream. This is one reason why we continue to see hospitals buying community practices so that they can recapture that revenue stream along with improving continuity of care. Secondly, lack of financial transparency and awareness drives up drug spend and overall cost as well.

How do we change the future? As we learned from our research, there are several barriers preventing us from changing the future including transparency and lack of public demand. We don't inform patients on what outcomes to expect, and true costs. Patients don't have the tools to make effective decisions for their own health care, it's not in their routine. Outside influencers like Amazon or Google are integrated in your day-to-day life. They can make you think about health care and put that information in front of you.

Good Problems Still Require Solutions: How Do We Improve Access While Preserving Incentives to Innovate?

#1 Area of Focus to Improve Innovative Therapy Access
(Percentage of Respondents, Payer Perspective)



"If the system as we know it changes—to discourage investment so that there is no payback for the risks that companies and individuals take [to bring innovation to market]—then [innovation] will potentially dry up, and that's a huge challenge and a huge concern."
– Health policy advisor

We asked payers "what's the viability of implementing different solutions?" Almost 100% felt implementing evidence-based medicine with measurement or value-based pricing and contracting are viable solutions. Surprisingly, nearly 1/3 of respondents mentioned government controlled pricing--Medicare and Medicaid leading pricing negotiations as a viable solution. This would not have been the case even 2-3 years ago. In addition, many responses suggested adding some form of quality adjusted life year metric to inform coverage decisions. Other comments included eliminating copay systems, increasing patient involvement, and to stop subsidizing the rest of the world as the U.S. continues to shoulder much of the financial burden to pay for innovation. This is part of what is driving the recently released international pricing index proposal coming from the Trump administration.

Approximately 50% of respondents stated cultural and social barriers are an issue to overcome. Socioeconomic status plays a huge role in patients affording their care and being adherent to their care. For individuals with less than $25,000 dollars of annual income, 94% cited costs as a primary reason why they don't fill a prescription. And it's not just based on socioeconomic status anymore, with the way health care costs are rising, people of all levels of financial status are feeling the impact. So many more of us are not immune to the financial impact and, given that 61% of all bankruptcies are due to medical costs.

Another key trend stakeholder indicated would have the biggest impact on the future of health care is consolidation and it is occurring in every sector of health care (providers, payers, manufacturers, etc.): hospitals in 90% of the metropolitan statistical areas are characterized as being very highly concentrated. Physician practice consolidation continues to occur, in 1983 about 78% of physicians owned their practices. In 2016 only 40% of physicians owned their practices. Therefore, physician choice is decreasing as regional markets become more concentrated which tends to cause the price of physician services to increase as well. Last, the managed care industry has been consolidated for a while, with the top four insurers making up over 80% of the market.

We asked our payer panel "what aspects of consolidation will have the most impact on health care?" They felt that factors that will have the biggest impact due to consolidation were—increase in buying power, likely rising price of health care due to less competition, less patient choice, increase in efficiency in delivery of care, and lower access

to therapy except in rural or remote areas where consolidation could bring better access to some services that weren't previously available. When you have less competition, the chances for prices to increase are significant. One professor of economics from Harvard University testified in front of Congress in February and he eluded to a fact that there's an abundance of research that shows, even in recent history, that as you consolidate the market, prices increase in the short term. And there's no data out there to show prices will decrease in the long term with consolidation.

The positive side of consolidation is potential for integration that benefits the consumer. This integration can create a new positive experience for patients. For example, if a health system buys a hospital in a rural area, the larger health system may have standard policies and standards that increase to level and consistency of care. In addition, skilled providers may do rotations at the smaller site making an experienced provider accessible in that rural area.

There have been several recent announcements that could be significant influencers and disruptors in industry consolidation. The biggest ones mentioned are CVS Health/Aetna, Cigna and Express Scripts, and Walmart and Humana. A significant positive impact that can result from these proposed integrations is the ability to make care local and more tailored, an experience a consumer will understand.

One of our biggest opportunities is to integrate health care and social determinant data or consumer data from consumer facing companies (such as Amazon or Google). This will impact the way we buy things in health care and help identify consumers that are looking for solutions. However, all that data needs to be integrated to effectively impact care which will be quite a challenge. One example of integrating patient reported data and health care information is the pilot projects Fitbit has set up with various groups. More specifically, they partnered with both the Minnesota Timberwolves organization and with Indiana University. For each program they gave employees Fitbits and ran step challenges over a year. For the Timberwolves organization, this led to a 43% decrease in medical costs resulting in lower premiums for their employees. For Indiana University, 43% of their employees decreased their BMIs and 60% of their diabetic population participants decreased their HgA1C.

Although bringing programs such as this or empowering consumer through combined cost and clinical information is one of our biggest opportunities to improve health care, it will also be our biggest challenge. Unfortunately the health care understanding level is so low that it'll be a while before a consumer understands their choices, the potential ramifications of their choices around whether they want to spend dollars or not. To make this a reality, it requires integrating the disparate datasets across our fragmented health care system and them providing it in a digestible format to the consumer. Approximately, 25% of respondents in our research said the key for success for population health management is all about integrating the data. We currently shop for health care blindfolded. There's a lot of tools that we all have through our health plans, but we don't know how to use them. Also, they tend to be complex or have data that is minimally useful and/or out of date. The biggest challenge is simplifying it for the patient and making it something they can consume. The more technology advances and we can put health information into someone's routine, the more utilization we will see.

This paints the picture that we need to fix as an industry. We need to make health care more transparent, accessible and easier for the consumer to understand that that they can make informed health care decisions before they buy. Without this, we will never be able to afford any part of health care, let alone pharmaceuticals. We need to work together across the industry and outside the industry to make this a reality.

Len Lichtenfeld

On December 23, 1971, President Nixon signed the National Cancer Act, which later became known as the war on cancer. While we have made significant leaps in the direction of developing cures for cancer, we certainly have not yet won the war. Cancer has transformed. Cancer care, cancer diagnostics, and cancer treatments have all transformed considerably. We now know that cancer is not a disease of a particular organ. We are at the point where we are able to characterize some cancers through genomics and many other factors. The research surrounding cancer is ongoing, and will continue to rapidly transform ways we impact patient outcomes.

Innovation is moving so quickly that the capacity for one individual to absorb all of the information out there, whether it is a physician caring for a patient or someone trying to understand the complexity of science or how to deliver better care, is truly beyond anybody's ability. "Moore's Law" in technology introduced a few years back was a prediction that computer chips would increase substantially in capacity every two years while costs would plummet. While we have seen this to be true, we have discovered that many believe the opposite to be true regarding cancer treatment. This has been named "Eroom's Law" (Moore spelled backwards) and predicts that targeted treatments are leading to rising costs with decreasing success.

In order to prevent advances such as genomics, genotyping, proteomics, and metabolomics from failing and perpetuating Eroom's law, we must figure out how to apply the technologies we have to actual patients. We need to redesign our payment structure so it is no longer absolutely out of sync with our emerging effective technologies. We need our technology to really make a difference. We can spend tremendous amounts of money developing the latest molecular diagnostic tests, but unless it is making a difference in patient outcomes and has clinical utility, it is simply a waste of time.

It took 40 years from the start of immunotherapy research for cancer to achieve drug development using T-cells for cancer treatment. We must accelerate this time, invest in basic research, and recognize that we have not invented everything. The talk around immunotherapy has been overwhelmingly positive, but much remains to be done.

Today, immunotherapies are appropriately indicated for a substantial number of patients. Some have biomarkers, some do not, but most importantly, patients with advanced lung cancer, as appropriate, are now candidates for immunotherapy. These therapies are impacting hundreds of thousands of people and the government gets interested real fast when you suddenly have this kind of expenditure staring at you without a response in advance. This forces something to give, as government budgets are being heavily impacted. United States health expenditures were $3.5 trillion in 2017, and there is no indication that these numbers will go down. Many think the reality is that we don't have much leverage to make a change.

Unfortunately, we are facing a funnel effect. We are focusing on medications that are very niche oriented and economically unreasonable. In years to come, we will have biosimilars and be able to treat more people, but we will also certainly be micro-targeting our drugs so the problem we are facing will continue to occur. We need to be thinking about how we can change our payment systems so that we don't have to pay money every time. We need to learn how to securitize, and spread payments for some of the medications mentioned over a longer period of time. We need more accurate models to tell us the true value of some of the medications we are using today. Until we address the fundamental inequities in our health care system and provide access to care, we will have failed the fundamental mission of this country to make sure that everyone has access to affordable and acceptable health care.

The Future of Person-Centered Care: Creating Innovations in Delivery and Patient Care that Matter to Patients

Alan Balch

We are currently at many crossroads in regards to the future of health care in the U.S. At one of these roads, we will have to make the decision to either transition to health care delivered as a resource just as other industrialized countries have, or continue to pave our own path in a uniquely American way. Trade-offs are present and neither road has the perfect balance, but a consumer driven approach is inevitable no matter which path we choose. Innovation and disruption within medicine has not only led us to precision medicine, but a new wave of personalized care through the use of data and analytics.

Payment and delivery go together, and cannot be uncoupled. Simply increasing patient cost-sharing does not equate to patients taking on a consumer role in their own care.

The wave of change moving health care from volume-based to value-based has opened the door for policy, payment, and health care delivery changes as well. Payment and delivery go together, and cannot be uncoupled. Simply increasing patient cost-sharing does not equate to patients taking on a consumer role in their own care. Patients must be able to act rationally with good information regarding price and benefits to be able to act on this information. We have done patients a disservice by placing them into a health care supermarket with a blindfold on and telling them to go shop. If this is the direction we are going to follow, we have a moral obligation to introduce more informed consumerism approaches to health care.

The National Patient Advocacy Foundation (NPAF) is the advocacy arm of the Patient Advocacy Foundation and aims to bring patient voices to health system delivery reform by developing and driving advocacy initiatives that promote equitable access to affordable and quality health care. NPAF does this by always prioritizing the patient voice in health system delivery reform to achieve person-centered care. In our opinion, the best way to deliver value is through the delivery of person-centered care.

The paradigm shift we are facing will take the decision-making out of the hands of external stakeholders making care decisions on behalf of the patient, and give individual patient preferences and values a voice to shape multiple aspects of the health care system as a key strategy to achieve the triple aim. For this shift to have successful outcomes, we must have greater consumer engagement, transparency, and communication skills for both patients and providers. We must also work for better use and integration of information technology and analytics so that we can more frequently incorporate patient-reported data to drive decision making.

PATIENT ENGAGEMENT LEADS TO CONSUMER ENGAGEMENT

Generally speaking, patients do not prefer non-voluntary or forced choice. In political terms, we call this coerced or forced choice, and this does not equal consumerism. What we do want is to bridge the gap between focusing primarily on "what is the matter with the patient?" to incorporate more questions such as "what actually matters to the patient?" The foundation needed to bridge this gap is value-based quality care combined with skilled communication and coordinated team-based services.

In interviews with patients, we have found quantitative data to reveal that good patient experience boils down to three essential components. First, patients must feel like they are listened to instead of feeling as if their caregiver or provider is dictating their treatment. Next, the patient must feel respected without having judgements or assumptions made about them. Lastly, patients want to feel as if their care is personalized just for them. This does not mean that providers need to give patients everything

they want, but it does mean that patients appreciate a personal connection with their provider. Shared decision making is the delivery mechanism for starting the practice of and creating an environment where a patient feels listened to, respected, and that the choices made are, in some degree, personalized to some of their unique attributes.

When you think about a disease or an illness, each is a very personal experience that may cause the patient to feel vulnerable and scared. Personalization identifies appropriate variation in care based on the unique characteristics of the individual, which will generally provide better outcomes at lower cost by getting the right services to the right patient as soon as possible. This is not to say that there is no value in standardization. Appropriately applied, standardization can reduce unnecessary variability, errors, and expenses.

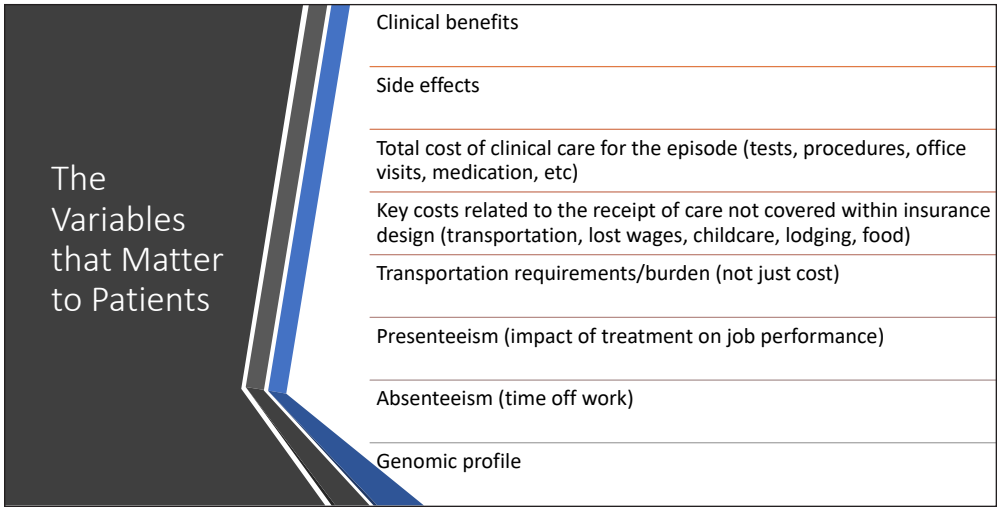
SO WHAT DO PATIENTS WANT?

We did a survey with about 1,400 low income cancer patients in which 90% had received care in the last 12 months. This survey revealed that 83% of patients believe it is extremely important for treatment to be highly personalized to the unique characteristics of their cancer when asked on a Likert scale from 1 to 5. In contrast, 57% percent of patients answered that it is extremely important that they receive the standard treatment for most patients diagnosed with the same or similar cancers. In addition, most patients prefer to make the final decisions regarding their care with input from doctors and other experts.

THE VARIABLES THAT MATTER TO PATIENTS

- Clinical benefits
- Side effects
- Total cost of clinical care for the episode (tests, procedures, office visits, medication, etc)
- Key costs related to the receipt of care not covered within insurance design (transportation, lost wages, childcare, lodging, food)
- Transportation requirements/burden
- Presenteeism (impact of treatment on job performance)
- Absenteeism (time off work)
- Genomic profile

Patients deserve to know and want to know the cost of their care as they begin to make health care decisions. While this introduces further complexities due to varying risk tolerance with age and various states/types of disease, patients would rather know the out of pocket costs for their care (including medications, hospital stays, surgery, lab work, etc) before making big decisions. Overall, we must move the needle forward in regards to transparent cost sharing if we aim to provide patient-centered care. Skilled communication, quality of life and supportive services, equitable access to needed treatment and supportive service, as well as actionable data that is meaningful to patients will help us all as we aim to disrupt the status quo and improve patient outcomes.



Addressing the Social Factors of Health is Good Medicine

Kathleen Stillo

Health care utilization does not always equal good health care. Sometimes, good health care is a clean, safe, private apartment unit for a member who was formerly homeless. At UnitedHealthcare, we now have data to prove that housing is a vital component of health care.

Looking at various factors that drive patient health outcomes, research has determined that only 20% of medical spend is directly related to the access and quality of clinical care. The other 80% impacting health outcomes arise from health behaviors as well as social, economic, and environmental factors. In order to impact the 80%, UnitedHealthcare has implemented a program through the Medicaid line of business in several cities, aiming to house homeless members, improve health outcomes, and decrease medical costs.

Looking at various factors that drive patient health outcomes, research has determined that only 20% of medical spend is directly related to the access and quality of clinical care. The other 80% impacting health outcomes arise from health behaviors.

Phoenix, Arizona is the location of the first intervention, which is referred to as myConnections. Data collected on homeless members in Phoenix revealed that they were using the emergency room (ER) nine times more frequently than the non-homeless members and were admitted into the hospital nearly six times the average of the non-homeless members. The cost differential overall is three times higher in homeless individuals. In this city, it became apparent that myConnections could step in and address this disparity, as there was only 185 homeless members compared to 305,000 non-homeless members. The myConnections team at United developed the data-driven, flexible and scalable housing solution with wraparound social services for the most frequent utilizers of the health care system. Within this small population, the team decided to focus in on pregnant and addicted moms, folks transitioning out of jail, and homeless adults.

There are many success stories from members participating in myConnections, all revealing dramatic improvements in overall health and decreases in health care utilization and costs. This program has also served to reveal specific social determinants impacting UnitedHealthcare members. For instance, 30% of members report that once they lost access to transportation or lost a care, they lost their job shortly after. For some, loss of reliable access to transportation and employment causes emotional distress and financial instability, and this negative string of events can lead to homelessness.

THE MYCONNECTIONS HOUSING HEALTH MODEL

In Phoenix, we have partnered with a community agency and funded them to rehabilitate a 600 unit vacant apartment complex. This agency is renting 500 of the units at market rate for $600 per month and 100 are set aside for us and our members. In Las Vegas and other cities, we have a scattered site model. In the future, we hope to set up group homes for folks who need more support but do not necessarily need skilled nursing facilities.

Each model has showed promising results thus far as a proof of concept. From the single-site model in Phoenix, we have seen a 55% reduction in ER visits, a 71% reduction in hospital days, and an 81% reduction in hospital days. The scattered site model in Las Vegas has shown similar success with a 65% reduction in ER visits and a 64% reduction in hospital admits. The cost changes per member per month in each location revealed dramatic reductions as well. In Arizona, members cost 42% less after entering the single-site model. In Nevada,

an 81% reduction in cost per member per month was revealed. This difference in cost is seen because the single-site model was built by UnitedHealthcare and has extra wraparound services offered. In order to show long-term success, it is time to scale up and replicate this program.

At United and within this program, we spend our time looking with a lens of trauma informed care. This is a field of study where adverse childhood events (ACEs) are measured based on the experience of a child between zero and five years old.

How many factors of abuse have you been the recipient of? What about neglect, or household dysfunction? The higher the number, the more likely the individual is to have tremendous medical complexity as an adult. If we try to treat, understand, and co-create care plans for patients and members, but we do not address ACEs, we are not going to get the full picture.

It is not surprising that there is little return on investment when you look at keeping healthy people healthy.

HEALTH CARE HOTSPOTTING

It is not surprising that there is little return on investment when you look at keeping healthy people healthy. When you look at the other end of the spectrum, at very sick patients, it is a small number of patients that will significantly benefit from programs such as myConnections. We call this complex care, and we are aiming to understand how to take care of the most medically and socially complex patients since the kind of care they need is drastically different from the many.

Health care hotspotting is the method we use to find members who will likely respond to our interventions. This is the strategic use of data to deliver targeted evidence based services to complex patients with high utilization. Hotspotting gives us the ability to figure out which patients are experiencing a mismatch of their needs and the services that they are getting. This methodology has allowed us to shift our focus to make sure we are taking care of the few in was that will differentially impact their health outcomes as well as our overall spend. We hope you will continue to disrupt with us!

Employers, Benefit Creativity, and Disruptive Factors

F. Randy Vogenberg

Working in the employer space, you automatically work with everyone involved in the health care delivery system. Employers are by nature the largest purchasers of care in this country. We are made up of commercial organizations, representing all facets of our economy. In addition, employers also include municipalities as well as state governments and unions. If you think about it, employers range from the hospitals some of us may work out, to the health plans and county governments in the cities which we live.

Traditionally, employers get left out of many discussions surrounding disruption because many have traditionally seen the changemakers as the pharmacy benefit managers (PBMs) or health plans. This is beginning to change due to the complex relationships developing among both internal and external stakeholders whom employers interact with. Employers not only interact with the employee, or the patient, but also the owners of the firm as well as the internal managers. Overall, the entire organization will be working internally to make decisions surrounding both medical and pharmacy benefits. Externally, employers interact with many different entities as well. Suppliers, government entities, society as a whole, creditors, shareholders, and customers, just to name a few.

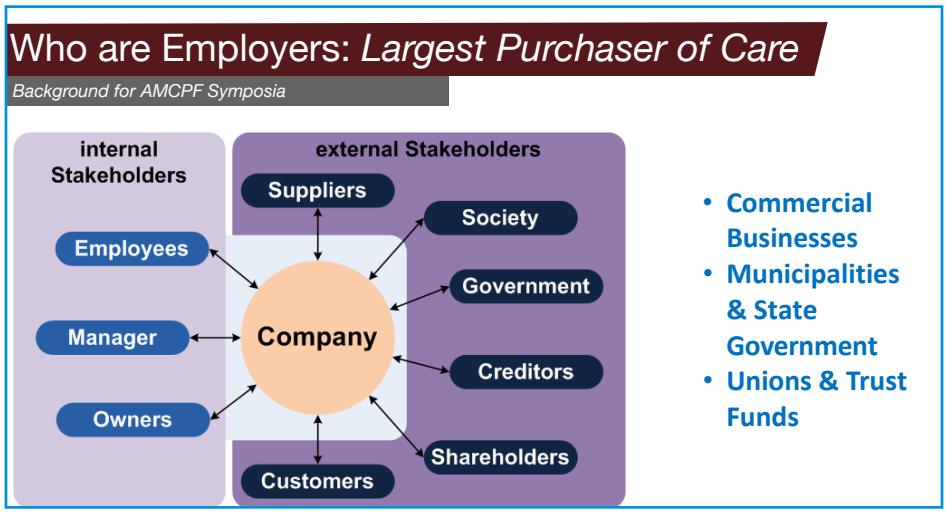
Over the years, employers have seen several trends in three main areas.

APPLICATION OF PRINCIPLES OF INSURANCE

The first area is the application of insurance principles, which has to do with managing the economic risk associated with health care. This is essentially legal risk management in the health care space. Secondly, once we have the structure in place, we are then able to focus on design. This is where we answer the following questions: what is going to be covered? And how do we structure ourselves in a way that manages risk while also helping achieve long-term business goals?

TIMELINE IN BENEFIT PLANNING AND ORGANIZATIONAL SIZE

The second focus within the employer space has to do with understanding the timeline of benefit planning and the impact of organizational size. Large Fortune 500 corporations look over a longer timeline of 18 to 24 months, while planning can go out as long as 5 to 10 years. This is due to the fact that changes take more time in a larger corporation. Smaller employers have shorter timelines, rarely extending out over 12 to 18 months. This is where we see a large difference in between employers deciding what they would like to do with their benefit.



FINANCIAL INVESTMENT

The third area is financial investment, which determines the actual dollars spent and creativity surrounding how to spend them. When companies are making a financial investment in an employees health care, it is important to recognize that this decision will impact the employees family as well. Employers have been working hard to determine how to address not only coverage issues, but also rising costs. The public and private sector are both impacted by these factors, and both are looking at how to structure benefits to attract and retain employees, while staying within budget. For smaller businesses in the private sector, this is a short-term area of concern.

Taking these three areas into account, we must begin to look and think about health care in a local framework in order to plug in and make an impact. From an employer perspective, the number one issue is legal and regulatory compliance with any decision that is made. For those who are self-insured, the federal law ERISA grants protection and allows them to most anything that want. This grants flexibility and leaves room for innovation. For most others, it is important to look back at the executive orders which were implemented during the Obama administration. We are now seeing the Trump administration reversing most regulations and what an employer could not do three year ago, today, sometimes they can do it.

Next, we must not forget about the state agencies, Insurance Commissioners, Health and Human Services agencies and Registration boards. Many interventions we would like to cover as an employer may not be allowed due to the fact that licensing will not permit it. For instance, trying to cover telehealth or MTM historically has been extremely difficult from an employers perspective.

In order to address these issues and make progress in the right direction, one area for disruption is in the development of meaningful metrics and actionable items tying back to those metrics. We must realize the importance of translating metrics and outcomes from our benefit plans in a way that proves we are not only collecting and using the right data, but we are being transparent and sharing data freely in real time with those who need it.

Disruption: Trends or Tremors

Fundamentals Effecting Rate of Change "Seen"

- ❑ Principles of Insurance
  - ❑ Structure as economic risk management
  - ❑ Design as a benefit
- ❑ Timeline in Benefit Planning and Organizational Size
  - ❑ Large: 18 to 24 months +
  - ❑ Small: 12-18 months
- ❑ Financial Investment
  - ❑ Actual dollars spent
  - ❑ Dollars mitigated through structure and design
  - ❑ Impact on type business entity (public or private)

The takeaway point here is that we're in a multi-dimensional rapid cycle market environment. This is not for sissies. Economics as they are will not be sustainable, whether we're talking about business, the purchase or care, or for the citizens of this country in general. The executive branch and regulation right now is very favorable for change. This is where we started thinking about what are the factors that look good for disruption. They're all looking green right now, with very little yellow and almost no red. We must see change as inevitable and as a good thing in order to keep up.

With Appreciation

The AMCP Foundation would like to express its appreciation to the organizations that provided support to the Research Symposium. The live meeting, registration scholarships, highlights webinar and this summary were made possible in part by those below.

AMCP Academy of Managed Care Pharmacy FOUNDATION

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ABOUT AMCP FOUNDATION

The AMCP Foundation advances collective knowledge on major issues associated with the practice of pharmacy in managed health care, including its impact on patient outcomes. Other Foundation programs that facilitate the application of medication-related research include the Trends in Health Care series and Best Poster competitions. The Foundation cultivates future leaders in the field through immersive experiences for student pharmacists, like our National P&T Competition. The Foundation was established in 1990 as a 501(c)3 nonprofit organization, and is the philanthropic arm of the Academy of Managed Care Pharmacy (AMCP).

ABOUT AMCP

The Academy of Managed Care Pharmacy is the nation's leading professional association dedicated to increasing patient access to affordable medicines, improving health outcomes and ensuring the wise use of health care dollars. Through evidence- and value-based strategies and practices, the Academy's 8,000 pharmacists, physicians, nurses and other practitioners manage medication therapies for the 300 million Americans served by health plans, pharmacy benefit management firms, emerging care models and government.

Advancing Health Outcomes Through Timely Collection and Dissemination of Data and Information

Research about health care trends that place new demands on the practice of pharmacy continues to be an integral element of the Foundation's mission. Initiatives like our Annual Research Symposia advance the collective knowledge about how managed care pharmacy impacts patient outcomes.

Emerging Trends in Health Care and Disrupting Factors — 2018

Building upon the AMCP Foundation's continuing research focused on health care trends, presenters addressed new aspects of emerging trends and potential disruptors leading health care system change and impact on varied stakeholders. Presenters reviewed numerous factors that have the potential for disruption of health care services, and implications if stakeholders fail to address the shifts. Key trends explored included: drug pricing and spending, innovative and curative therapies, health coverage, accelerated drug approvals, specialties and biosimilars, population health management, big data and health IT, industry consolidation, and public policy. Thank you Pfizer, Inc. for supporting the trends research and the Symposium. Additional Symposium partners were Genentech and Merck, with Xcenda as our research partner.

Value-Based Health Care: Identifying Benefits for Patients, Providers & Payers — 2017

Varied perspectives on stakeholder definitions of value in health care were discussed. Symposium presentations focused on the importance of recognizing how patient care decisions should, or could, be made to address care delivery considerations beyond the current primary focus on the cost of care in most value considerations.

Increased interest in value in health care has been fueled by many factors. Certainly, the great attention to new, high-cost therapies over the past several years has played a key role. Simultaneously, developments in our capabilities for measuring value, through growth in our capacity to generate real-world evidence and increasingly sophisticated analytical tools and approaches, better enable stakeholders within the health care system to understand and consider value in our decision-making. A key finding for fully understanding value in health care requires the development of a standardized process for incorporating the patient perspective into health care decision-making at multiple points in their journey. Supporters of the 2017 Symposium included Amgen, Boehringer Ingelheim, Janssen, National Pharmaceutical Council, Pfizer and IQVIA.

Balancing Access and Use of Opioid Therapy — 2016

Opioid pain therapies and related challenges confronting health plans, prescribers, payers and others were the focus. Symposium presenters examined the role managed care pharmacy and health plans can – and should – play in addressing this national health care emergency in terms of access to appropriate therapy and prescriber perspectives; as well as opioid use monitoring measures, managed care and health plan initiatives, and research gaps and the future of pain treatment. This program was made possible through support from Alkermes, Inc., Optum, Inc., Purdue Pharma L.P., and Teva Pharmaceuticals Industries Ltd.

Opportunities & Challenges in Patient Care, Prevention, & Adherence — 2015

Experts addressed innovative ways to take on chronic disease through prevention; while assessing the growing impact of chronic disease treatment on our economy and the health care delivery system. Presenters also examined the historical perspective of treatment management; reviewed what has worked, what has not, and what is needed; and investigated barriers such as plan design, care coordination, and the patient's role. This Symposium was supported by Amgen, Inc., Eisai, Merck & Co., and Novo Nordisk, Inc.

Specialty Pharmacy and Patient Care: Are We at a Tipping Point? — 2014

Key issues included a focus on the specialty drug conundrum: why is something so great so expensive? Under pressure to improve outcomes, but also control costs, many payers are employing cost containment tools - such as high copays – that some say have gone too far. Others, including providers and patients, are beginning to question the ROI. The following sponsors provided unrestricted grants to support the symposium – Amgen, Biogen Idec, the National Pharmaceutical Council, and Pfizer, Inc.

Additional details available under Reports and Research at www.amcpfoundation.org.

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