ADVANCING POPULATION TOWARD HEALTH

2016 ANNUAL REPORT

MHMD

Memorial Hermann Physician Network

MHMD
MEMORIAL HERMANN Physician Network

MHMD Mission

OUR MISSION is to lead the transformation of medical practice, in collaboration with patients, payers and caregivers, through the use of evidence-based medicine. We establish a culture of physician accountability and create and deploy new methods of health care that will improve the quality, safety and cost efficiency of the care we provide for the populations we manage.

MHMD Physician Compact

PHYSICIANS AGREE TO:

Practice evidence-based medicine

Uphold regulatory, quality and safety goals

Report quality data

Meet Clinical Integration criteria

Attend meetings and feedback sessions

Receive MHMD information

Accept decisions of physician committees

Be flexible and professional

Collaborate with colleagues and hospitals

Share ideas

MHMD AGREES TO:

- Be loyal to physicians
- Negotiate well to align incentives
- Include physicians in work decisions
- Provide clear and timely information
- Offer vital services and education
- Seek feedback from physicians
- Maintain confidentiality
- Communicate with physicians
- Host informative meetings
- Create leadership training

Victoria Regan, MD
VP of System Women's &
Children's Service Line

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Executive Summary

Transforming the Practice of Medicine

The year 2016 garnered many achievements and advancements for the Memorial Hermann Physician Network (MHMD), the most notable of which was the Memorial Hermann Accountable Care Organization's (MHACO) repeated achievement as the nation's top performing accountable care organization in the Medicare Shared Savings Program (MSSP). Earning this standing for the third consecutive year, we delivered the MHACO's best-ever result, saving $89 million. In these three years of program participation, the MHACO has generated a total savings of $200 million. This year not only has the MHACO received top recognition for ending the third year with the largest amount of savings but also for a strong quality score of 96 percent – nearly a 10 percent improvement over the previous year.

Our network experienced additional growth in 2016 with 38 new members to the Advanced Primary Care Providers (APCP), 54 new Advanced Pediatric Providers (APP) and 175 new Memorial Hermann Physician Partners (MHPP). By strengthening our network, we continue to advance our ability to contract for the organization as the largest primary care network in the Houston market. In addition, we provide a robust referral network with broad geographic presence and specialty coverage for our participants.

While our performance in the MSSP has been a consistent accomplishment for the MHACO, more work continues to be done as we equip our network for new payment models in our marketplace. Our Strategic Analytics team continues to build sophisticated tools that enhance visibility into data, giving our physicians a longitudinal view of the patient's medical care. With the continued rollout of SmartRegistry, doctors are able to fill gaps in patient care, offering opportunities for efficiency and reduced duplication of tests.

Our Health Management team experienced additional restructuring this year to promote continuity of care and cost effectiveness through the integration of care management within the entire care continuum. These improved communications across the continuum of care create a smoother transition for the patient, thus impacting not only the patient experience but also better management of patients with chronic conditions.

The Clinical Programs Committee (CPC) continues to serve as the quality engine of the organization. These committees are defining best practices across all specialties, ensuring quality of care is being provided to all patients at Memorial Hermann Health System.

The ACO Service Lines have worked to identify opportunities to concurrently reduce the cost of care, enhance the patient experience, and improve clinical quality/population health—three focus areas commonly known as the "Triple Aim." Although we are not yet sure when it will occur, the progress of these physician-led teams are creating a foundation to prepare our network for the shift from fee-for-service to value-based care.

MHMD University continues to serve as a valuable educational opportunity for emerging administrators and physicians. Participants value the experience and gain perspective into either the administrative or medical view of the challenges faced in today's healthcare landscape. And, this year MHMD invested in educating our members about the upcoming changes in physician reimbursement to prepare our network for the implementation of the Medicare Access and CHIP Reauthorization Act (MACRA).

In addition, our Supportive Medicine team focused on educating and empowering physicians, clinical staff and the community with an improved understanding of Hospice and Supportive Medicine. Through two symposiums and the System-wide Supportive Medicine Nurse Staff Champions Course, the team equipped participants with key communication skills and information needed to improve outcomes and patient satisfaction in patients who benefit from management and treatment of chronic illness. It was no surprise when our dedicated Supportive Medicine team members were awarded with the American Hospital Association's (AHA) Circle of Life Citation of Honor in 2016. As the pressure to reduce costs and improve quality and outcomes continues to intensify, MHMD is creating tighter alignment within the physician organization, bringing value and support to its members through improved contracted rates, coding education, and assistance and legislative advocacy. As we move into 2017, we are committed to bringing value to our members while preparing them for health care's shifting environment in not only the Houston marketplace but also the national industry.

Chris Lloyd,
Chief Executive Officer

MHMD

Executive Leadership Team

Chris Lloyd,
MHMD & MHACO CEO
Charlotte Alexander, MD,
MHMD President

MHACO Is Top Performing ACO in Country for Third Year in a Row

In a performance that continues to achieve year-over-year quality and financial results, the Memorial Hermann Accountable Care Organization (MHACO) produced its best-ever result, saving $89 million in the third year of the Centers for Medicare & Medicaid Services (CMS) Medicare Shared Savings Program (MSSP). All three years of participation garnered top recognition for the MHACO, ending the third year with not only the largest amount of savings, but also with a strong quality score of 96 percent – nearly a 10 percent improvement over the previous year – qualifying to receive bonus points for improving quality scores in certain measures.

A commitment to delivering high-quality and safe care is fundamental to Memorial Hermann Health System's mission and a key reason why the MHACO continues to achieve success. "In the three years since the Memorial Hermann ACO volunteered for participation in the MSSP, it has delivered a value proposition of better clinical outcomes and lower costs to Medicare recipients, many of whom are on fixed incomes," said Chris Lloyd, SVP and chief executive officer of MHACO and the Memorial Hermann Physician Network (MHMD). "These results bode well for that population – and all populations – going forward. Our third-year success can also be attributed to the added involvement of the primary care physicians of McGovern Medical School at UTHealth, who began participating in our ACO for the first time," continued Lloyd.

Additionally, in these three years of participation in the program, the MHACO has generated a total savings of $200 million. In 2015, 12 Pioneer and 392 Shared Savings Program ACOs generated more than $466 million in savings, which included all ACO savings and losses.

The success of ACOs are particularly important in Texas where, according to the U.S. Census Bureau, nearly 10 percent of Harris County residents currently are over the age of 65, and by 2050 nearly one in five Texans will be senior citizens. Prevention and early intervention will be critical to helping an aging population stay healthy as they grow older. This past year, the MHACO provided care for 50,055 Medicare beneficiaries, which is 10,000 more patients than in the last period and 16,000 more than in the first period.

When the MHACO was formed four years ago and decided to participate in the MSSP, the expectations were mainly to gain valuable experience in managing risk and the health of populations of Medicare beneficiaries. The objective was to reduce the cost of care while also demonstrating increased quality by using data to underpin the practice of evidence-based medicine.

Our performance confirms that our clinically integrated physician network, combined with our use of innovative technology and a team concept to manage the care of patients, is not only resulting in savings, but also high-quality clinical outcomes. "Our continued success confirms that creating an operational template based on a commitment to quality achieves cost savings in health care," said Nishant "Shaun" Anand, MD, SVP and physician-in-chief of MHMD. "And, as we enter a new period of the program with a lower target, we will have to identify new opportunities for savings."

All of this work and success of the MHACO in the MSSP prepares the members of MHMD as we move toward risk-based payment models. With the support of Memorial Hermann, MHMD was able to provide the massive resources to our physician practices in the form of practice facilitation, health management, technology, electronic connectivity, and education focused on optimal documentation and coding.

With independent McGovern Medical School academic and employed physicians working together for the patient and supported by effective health management, the MHACO is redesigning the model of health care. Being able to see a longitudinal medical record reduces duplication of services and allows the provider to see a full picture of each patient's health. This provides physicians with the information needed to better manage chronic illness and provide gaps in care to prevent disease and other conditions.

As with any program designed to show effective change, the targets for successful achievement will continue to shift, making it more challenging to achieve the same level of savings. We will continue to identify more opportunities for efficiencies and quality improvement in order to make strides toward healthcare delivery that is focused on the quality and cost of care each patient receives.

We are also firmly committed to population health. Going forward, we are even more excited as we continue to improve the coordination of care as well as redefine the delivery of care through new innovative models. We are building the type of coordinated, holistic care that we would want for ourselves and our loved ones – a model that truly emphasizes enhancing the health and well-being of our patients rather than simply providing "sick care."

Alan Weiss, MD, MHMG Chief Medical Information Officer of Ambulatory Care;
David James, MD, MHMG CEO;
Michael Davidson, MD, MHMD CMO

Population Health

Driving Results

As the healthcare industry continues to shift toward value-based payment, the Memorial Hermann Accountable Care Organization (MHACO) has been committed to preparing physicians for increased bundled payments. Payers are now interested in strategies that use incentives to achieve better value. Legislation, including the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), is encouraging more healthcare organizations to participate in alternative payment models (APMs).

In 2016, the Department of Health and Human Services (HHS) implemented the Quality Payment Program (QPP), which repeals Sustainable Growth Rate (SGR) and is made up of two participation tracks: the Merit-Based Incentive Payment System (MIPS) and the Advanced Alternative Payment Models (APMs).

According to "Navigating bundled payments: Strategies to reduce costs and improve health care", released by Deloitte, "bundled payments can be an organization's first step into APMs; they are relatively focused, engage specialists, and do not upend a hospital's fee-for-service (FFS) business model. Furthermore, bundling can be compatible with a population health strategy where savings from reducing post-acute care counts toward reducing total cost of care. Healthcare organizations interested in bundled payments can learn from the experience of early participants."

Current Payment Model

MHMD has various revenue streams associated with its current payer relationships. As an independent practice association (IPA), MHMD offers agreements that are typically fee-for-service, which is still predominant as direct payment for services rendered. Memorial Hermann continues to maintain multiple value-based arrangements where additional dollars are earned, or exposed to loss, resulting from negotiated performance and cost financial models. Most alternative payment methodologies fall under the MHACO.

Despite industry changes, Memorial Hermann will continue to be required to manage multiple reimbursement models. "We believe all are required to accelerate performance related to quality and efficiency expectations. Patient experience should be noticeably more positive, care delivery more consistent, and employers and health plans more engaged to support the win-win goal," commented LeTesha Montgomery, MHMD COO.

Total Covered Lives 434,610

These models require sophistication around data absorption and financial analysis, and as we navigate new waters, MHMD's top priority continues to be physician alignment.

Moving Toward Payment Bundles

Bundles and other types of risk arrangements are methods of controlling cost while also ensuring high-quality care. These models require additional resources and a higher level of intense management in exchange for payer criteria to participate and subsequently provide exclusivity supporting desired increased volumes. Physicians become more aligned in these models, working together for the benefit of the patient, as opposed to each physician managing individual incentives to address individual needs. These models are not for every population and each must be reviewed thoughtfully for implementation. All stakeholders play a role, and there must be engagement across the board to demonstrate success within these models.

The Future of Health Care and the MHACO

According to LeTesha Montgomery, chief operating officer of MHMD, "The future of health care continues to be unknown. Regardless, our physicians remain focused on quality of care, care efficiencies and cost. There is also a large focus on engagement amongst employers, the health plan and physicians, data transparency and sharing, and an exceptional end-to-end patient experience. These are fundamental activities that, no matter what, will continue to create a significant distinction in our market, defining who we are as not only an integrated delivery system, but also as an organization positioned to create a healthier population in the areas we serve. It's a win-win no matter what reimbursement structure applies."

While it is impossible to predict the future of health care, there is momentum toward greater degrees of transparency, provider risk and shared savings. With healthcare pricing, one size does not fit all, so there will likely be different solutions for uninsured, underinsured, Medicare/Medicaid, commercial-insured and commercial self-funded populations.

Education is everything. Preparing our physicians with data can dramatically affect practice patterns and provide otherwise unknown information about their patient's care and referred physician care decisions. Participation in these new models require potential increased engagement with patients, follow-up conversations that may or may not have occurred previously, and increased cost and administration to demonstrate active participation. MHMD is there to provide assistance and do as much as possible to bridge these gaps. MHMD has absorbed costs otherwise required of individual physicians to learn about changes in our environment and subsequently educate; define and support quality and cost performance and expectations with physicians; implement consistency; and define care protocols based on demonstrated results not only with physicians, but also with Memorial Hermann hospitals and affiliate providers. Our team has worked to deploy technology in physician offices, streamlining required activities for success; and we continue to provide tools that physicians can utilize with all patients, creating healthier populations and direct physician performance improvement, which lead to increased value.

Managing End-to-End Care

As part of MHMD's expanding functionality as an ACO, the MHMD Health Management department was designed, utilizing a multidisciplinary team to care for members. The team is comprised of RNs, LVNs, social workers, health coaches and clinical pharmacists.

Health Management's services promote continuity of care and cost effectiveness through the integration of care management within the entire care continuum. The concept of the Triple Aim, as defined by the Institute for Healthcare Improvement (IHI), is improving the member care experience, which includes quality, satisfaction, improving the health of populations, and reducing the per capita cost of health care. The program is available to individuals attributed to the population that MHMD serves and provides intensive, personalized care management services and goal-setting for members who have transitional and complex medical needs. A wide variety of resources are available to support members as they manage their health and work to improve their quality of life. Services are provided in a collaborative process that assess, plan, implement, coordinate, monitor and evaluate the options and services required to meet an individual's health needs, using communication and available resources to promote quality, cost-effective outcomes.

Evidence-Based Health Management Program

The Health Management program design was based on the Agency for Healthcare Research and Quality's (AHRQ) Re-Engineered Discharge (RED) program, the California Quality Collaborative: Complex Case Management Toolkit, and the Case Management Society of America's (CMSA) Standards of Practice for Case Management (2010 revision), which are the voluntary practice guidelines for the case management industry. Specifically, the program uses a member-centric approach, encourages self-care, integrates behavioral change principles, links with community resources, and assists with navigating the healthcare system. The program promotes quality outcomes and has established periodic assessments to measure and track the outcomes. The roles of the care coordinators are consistent with those outlined in the guidelines: assessment, care planning, communication, coordination, education, empowering and advocacy. The program follows the care management process detailed in the guidelines: member identification and selection, assessment and problem/opportunity identification, development of care plan, implementation of interventions, evaluation of progress, and termination of the care management process.

Programs and Services

In 2016, MHMD Health Management restructured, creating a system that enabled the team to improve and expand their capacity to effectively manage end-to-end care for a wide range of patient populations. In addition to reaching members who benefit from health coaching and wellness services, the programs serve patients experiencing advanced chronic disease who require more intensive support. The creation of the Health Management Hub allows the team to triage cases to the appropriate services, ensuring that each patient referral to Health Management is efficiently and effectively addressed. The following programs have been developed to address the needs of the diverse patient population within MHMD.

Advanced Illness Management – Members are assisted in reducing inappropriate usage of healthcare services, while improving symptoms and quality of life.

Most Valuable Member – Members are assisted in decreasing or eliminating psychosocial barriers, learning self-advocacy skills and healthcare navigation skills, and communicating with their healthcare providers.

Ambulatory Collaborative Care – Members are assisted in managing their health conditions, learning self-advocacy and healthcare navigation skills, and engaging in their own health.

Complex Care – Members will be managed by a Health Management team member. In some cases, the team member will collaborate with a condition-specific care navigator.

Health Coaching – Members are managed by our certified health coaches and receive individualized coaching focused on leading a healthy lifestyle and improving their ability to experience a full and rewarding life.

Wellness – Members are encouraged to engage in their own health by completing their preventive health screenings. The program supports our primary care providers (PCPs).

Transitions – Members who are not enrolled in one of the previous listed programs through the transition from hospital to home are encouraged to join the appropriate program. This team makes a "Welcome Home" phone call to share the following:

- Reviews and provides education regarding the discharge instructions
- Provides comprehensive medication review
- Ensures equipment has arrived in the home or a post-hospitalization services such as Home Health has been to the home
- Ensures the patient has a follow-up appointment scheduled and transportation to that appointment

Utilization Management – Health Management has established collaborative relationships with affiliated skilled nursing facilities to improve care delivery, streamline care transitions, and coordinate discharge planning functions in the post-acute environment. Once the member has been discharged from the affiliated skilled nursing facility, he or she is connected to one of the previously identified Health Management programs.

MHMD care managers strive to be available at the member's convenience by offering extended work hours, conducting member assessments phone calls to develop individualized member care plans, and collaborating with members or designated caregivers.

What Sets Us Apart From the Rest

MHMD is creating an organization unlike anything else in existence. Other health systems across the country are struggling to figure out how to develop a model like ours. Case managers have provided this service within hospital walls for years, but health management outside of the hospital is very new. The goal is to get patients engaged in the physician office environment so that they use their PCP rather than going to the emergency room for care – and it's working. This work allows us to implement various digital efforts that provide us the ability to compare quality of care and hospital metrics both before and after health management. We're very proud of the accomplishments that MHMD physicians and leaders have set in place.

William Pielop, MD, Pediatrician;
Peter Jung, MD, Pediatrician

Matthew Harbison, MD, Medical Director of the MHMD Hospitalist Program;
Emily Scott, VP of the MHACO

ACO Service Line Projects

Syncing Clinical and Operational Strategies

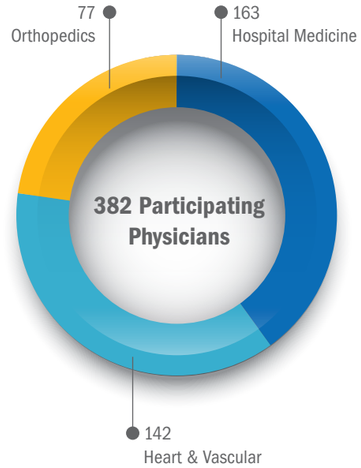
Accountable Care

The Memorial Hermann Accountable Care Organization (MHACO) is defined by its five components, which include the Medical Shared Savings Program (MSSP), Single Signature Contracts, the Accountable Care Network (ACN), Memorial Hermann Physician Partners (MHPP), and the Accountable Care Organization Service Line (ACOSL) Projects.

Led by Emily Scott, vice president of the MHACO, the ACOSL Projects aim to increase efficiency and decrease cost for Medicare inpatients in the areas of Orthopedics, Heart and Vascular, and Hospital Medicine. Each campus has one or two physician leaders per service line project. The leader(s) is paired with a campus administrator to facilitate meetings and lead performance improvement projects. These physician-led projects enhance the collaborative relationship between hospital administration and the 382 physicians participating in the ACOSL Projects. Physicians work with multidisciplinary teams at each campus to share data, review charts and improve processes, while the campuses share best practices across the System.

The ACOSL Projects focus on increasing patient satisfaction, capturing supply savings, minimizing observation hours, enhancing quality, and minimizing length of stay. Physicians are eligible for incentive payments each fiscal year based on cost reduction and quality improvements in these identified hospital-based measures. The project members work toward these goals by helping the System increase efficiency and decrease costs for Medicare patients; focus on pre-acute, acute and post-acute transitions; prepare for risk-based contracts, bundled payments and capitation; and strengthen physician alignment and collaboration.

By identifying barriers and creating solutions, ACOSL physicians are adapting to the changing healthcare landscape while positively impacting patient care at Memorial Hermann Health System.



Program Measures

Length of Stay efforts address a targeted group of high-volume, high-opportunity diagnosis-related groups (DRG) in each service line. Hospitalists manage and, therefore, are co-incentivized for DRGs that are ordinarily tied to cardiology and cardiovascular surgery as well as orthopedics, which drives collaboration between specialists and hospitalists.

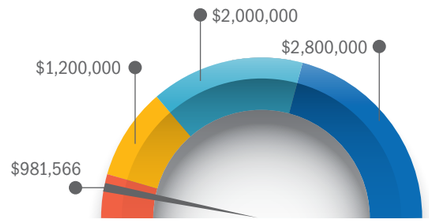
*Quality i*s reviewed monthly through ACOSL physician quality performance reviews. In addition, ACOSL physicians partner with local quality leaders to ensure current standards are exceeded and to set new benchmarks for quality. Memorial Hermann is recognized as a national leader in quality and patient safety.

Observation Hours define the captured amount of time patients are placed in observation status. This measure creates dialogue between specialists and hospitalists on best practices for disease process (e.g., chest pain) management, which drives down unnecessary consults.

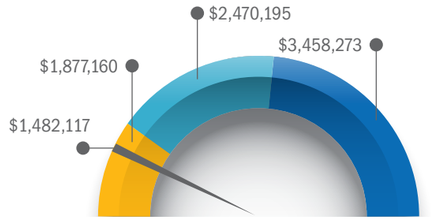
Patient Satisfaction is measured by Press Ganey HCAHPS, which is a composite score reported by service line. This allows the System to provide physician level scores by surgeon and discharging physician. Memorial Hermann will be offering a physician-led patient satisfaction training course throughout fiscal year 2017.

Supply Savings is captured based on decisions made through MHMD's Clinical Programs Committee (CPC). These physician-led decisions begin with a physician vote, and ultimately the System supply chain negotiates with vendors. These negotiations play a major role in minimizing variation of implants, surgical and procedural supplies.

In fiscal year 2016, the ACOSL projects captured $4 million in savings. "Pay to Play" capped pricing for total joints; focusing on at-risk utilization rebates created savings for cardiology (implants, CRM and stents), interventional cardiology (wires and balloons), and orthopedics (IM nails); and campaigning for medical necessity and utilization removed medically unnecessary implants ad products from formulary, blood conservation and utilization.



H&V Supply Savings Through Q3



Orthopedic Supply Savings Through Q3

Physician Engagement Takeaways

- **Acceptance of Case for Change:** ACOSL participants understand and accepted movement toward a standardized performance measurement model.
- **Relationship Building:** ACOSL meetings offer colleagues a networking opportunity and build trust between physicians, MHMD and Memorial Hermann.
- **Physician-Driven Process:** ACOSL meetings emphasize focus on the physician perspective and provide a forum for practitioners to collaborate.
- **Appreciation of Campus Dynamics:** The ACOSL projects promote discussion of unique challenges at the campus level and sharing of best practices currently in place.
- **Identification of Operational Barriers:** The ACOSL projects provide an opportunity for physicians to share operational roadblocks and barriers that impact the delivery of high-quality, efficient bedside care.
- **Forum for Feedback:** ACOSL meeting discussions solicit feedback from physicians on metrics that are aligned with hospital administration and areas for improvement.

MHMD Hospitalist Program

Innovating Patient Safety

Hospitalist Program Overview

In an effort to improve patient outcomes, increase operational effectiveness, reduce costs and increase physician satisfaction across Memorial Hermann Health System, MHMD launched a System-wide Hospitalist Program in 2016. This program engaged all contracted hospital medicine groups and select acute primary care providers across the Memorial Hermann system.

The first phase of work was to implement a consistent performance program for all hospitalists in Memorial Hermann. The Hospitalist Program Steering Committee approved the 11 measures to monitor performance. The goal of the measures is to drive improvements in care, highlight ineffective workflows impeding hospitalist success, and develop operational solutions.

For FY17, the MHMD Hospitalist Program will run parallel with the ACO Service Line (ACOSL) Projects, but they are separate initiatives. The ACOSL Projects are designed to support physician-led initiatives around quality improvement, cost reduction and operational efficiencies. The Hospitalist Program is designed to support similar initiatives, but focused on standardizing performance metrics for hospitalists across the System.

A Closer Look Into 4-4-2 Adherence

The System, MHMD and the MHACO recognized a pattern in Serious Safety Events (SSE) occurring in Memorial Hermann hospitals. Initiated by an Admission Taskforce, Memorial Hermann engaged stakeholders, including Clinical Performance Committees and Medical Executive Committees on each campus, in a conversation about standardization of expectations and enactment. An opportunity was identified to potentially reduce the incidence of safety events related to patients waiting for care, by utilizing 4-4-2 methodology. The metric, Timely Evaluation of Emergently Admitted Patients (4-4-2), centers on a physician being quickly present at the bedside. Through this new tracking metric piloted by hospitalists, campuses have begun to see quality improvements.

MHMD University

Fourth Row (L to R)
Dean Chauvin, MD; Nicole Clarke Luck; Chris Duperier, MD; Michael Bublewicz, MD; Rick Ngo, MD; Miles Mahan, MD; Rehal Bhojani, MD; Kyle Stanzel.

Third Row (L to R)
Shahid Rahman,MD; Jessey Thomas; Jason Glover; Christophe Salcedo, MD

Second Row (L to R)
Angel Ham, MD; Sandra Gomez, MD; Johanna Higgins Clowney, MD; Doan Do, MD; Lori Knowles; Majid Basit, MD; Ankur Doshi, MD; Rob McStay; Matthew French; Amit Parikh, MD; Victoria Regan, MD; Catherine Geigerich

First Row (L to R)
Ana Leech, MD; Richard Blakely, MD; LeTesha Montgomery; Jon Gogola, MD; Charlotte Alexander, MD; Shaun Anand, MD; Chris Lloyd; Nikki Roux

Not pictured:
David Bradshaw; Glenn Burnett; David James, MD; Dennis Laraway

MHMD University

Strengthening Collaboration Among Leaders

On January 22, 2016, a variety of leading talent from across Memorial Hermann Health System, including representatives from human resources, finance, nursing, operations, and employed and independent physicians, were enrolled in the second class of MHMD University.

MHMD University is a joint program offered by Memorial Hermann Physician Network (MHMD) and Memorial Hermann Health System in conjunction with the Rice University Jones School of Business.

The program is designed to improve professional development, communication and collaboration among MHMD physician leaders and Memorial Hermann leaders. Learning side by side, physicians and executives further develop their knowledge and leadership skills.

The first session of MHMD University took place in the summer of 2015, and included a total of 26 physicians and executives. After completing the course, well over half of the attendees desired to have an expanded role or deeper involvement addressing the challenges of our System.

"MHMD University offered me an invaluable experience," commented Christophe Salcedo, MD, general surgeon affiliated with Memorial Hermann Greater Heights Hospital. "The classes were well-designed and the faculty was top-notch. The course allowed me to better understand the business side of medicine in an era where collaboration between physicians and hospitals has become indispensable. I would welcome further similar educational opportunities."

The second class of MHMD University was comprised of 17 MHMD physicians and nine Memorial Hermann executives, who met for two consecutive days once every month for five months. At the beginning of the course, the "students" were divided into four teams comprised of both physicians and executives, and led by a Jones faculty adviser and a senior Memorial Hermann executive sponsor. At every meeting, each team worked on a capstone project topic that was directed at improving the quality, safety and efficiency of health care at Memorial Hermann.

In each MHMD University course, the capstone projects explore an area of strategic priority to Memorial Hermann. The executive sponsor provides vision and strategic oversight to the project, while the faculty adviser provides insight, direction and guidance on analysis, thought processes and content. Team members meet collectively and presented recommendations to senior executives. Past areas of focus have included Medicare profitability, leadership collaboration, population health and information technology, patient satisfaction, innovation in health care, retail medicine, impact of the institutional culture and preparation for changes in payment models.

"The project topics cover key issues plaguing every healthcare system moving forward," commented Chris Lloyd, System senior vice president and MHACO chief executive officer, and MHMD University executive sponsor. "We're diving deep into these issues, learning as much as we can and ultimately using the presentations and recommendations to teach our peers and our health system what and how we need to change in order to provide our patients with higher-quality care."

During the last meeting held in May 2016, each team presented an end-of-semester presentation and white paper, which identified inefficiencies and problems in health care and provided recommendations for better processes to solve the problems identified by the team.

As the MHMD University program continues, MHMD and Memorial Hermann are hoping to grow and expand session offerings from annually to biannually to allow more physician and executive leaders the opportunity to strengthen collaboration among one another.

2016 Session Topics

Leadership Foundations
Strategy Formulation & Implementation
Leading High Performing Teams
Healthcare Industry: Current Climate & Finances
Change Management/Process Improvement & Quality

Participants dive into key organizational concepts, including finance, leadership, operations and strategy.

Finance: Accounting and financial concepts help tie quality of care back to the bottom line and create a common language for understanding the nature of financial statements and financial decision-making.

Leadership: Learning the importance of coaching for performance allows leaders to develop those with high-potential among their staff, adapt their organizations to new external environmental realities and raise performance within their organizations.

Operations: Strategy, supply chain and processes within an organization as well as quality improvement and maintenance are key to a successful operation, the management function at every organization's core, which transforms inputs into outputs.

Strategy: In order to create advantage through positioning, a leader must understand strategy as winning, as having the competitive advantage, as creating a unique competitive position, and as doing "it" differently.

Team 1

Innovations in health care, such as new delivery models, genomics/personalized medicine, and technology, are disrupting the way medicine is practiced, managed, financed, and how patients interact with their providers. What are areas of opportunity and any associated risks? How should Memorial Hermann best evaluate or promote innovations?

- **Dr. Chris Duperier**, Anesthesia, MetroWest Anesthesia
- **Dr. Johanna Higgins Clowney**, Anesthesia, Greater Houston Anesthesiology
- **Dr. Ana Leech**, Palliative Care Specialist, Memorial Hermann Greater Heights Hospital
- **Nicole Clarke-Luck**, VP of Finance, MHMD and MHMG
- **Dr. Rick Ngo**, General Surgery, Southwest Surgical Associates
- **Dr. Victoria Regan**, VP of Women's & Children's Service Line, Memorial Hermann Health System
- **Kyle Stanzel**, VP of Operations, Memorial Hermann Cypress Hospital

Executive Sponsor:
David Bradshaw, EVP and Chief Strategy and Information Officer, Memorial Hermann Health System

Team 2

Retail medicine is impacting the delivery of care to patients in ways that were not contemplated in the past. What does retail medicine encompass? What are the opportunities and risks available in this space and what do you recommend that Memorial Hermann pursue?

- **Dr. Majid Basit**, Cardiovascular Disease Specialist, Memorial Hermann Sugar Land Hospital, MHMG
- **Glenn Burnett**, VP of Finance, Memorial Hermann Pearland Hospital
- **Jason Glover**, Director of Hospital Operations, Memorial Hermann Greater Heights Hospital
- **Catherine Geigerich**, CNO, Memorial Hermann The Woodlands Hospital
- **Dr. Sandra Gomez**, Medical Director of Supportive Medicine, MHMD
- **Dr. Christophe Salcedo**, General Surgeon, Memorial Hermann Greater Heights Hospital

Executive Sponsor:
Dr. David James, SVP and CEO, MHMG

Team 3

Health care is undergoing transformative change. Describe how an institutional culture in general, and specifically at Memorial Hermann, impacts an organization's ability to flourish and lead in a changing environment. Are there examples we can learn from of either successful or unsuccessful change? How can an organization best address the internal cultural differences that may be needed as the industry changes?

- **Dr. Michael Bublewicz**, Medical Director of Emergency Services, Memorial Hermann The Woodlands Hospital
- **Dr. Dean Chauvin**, Co-Medical Director, Memorial Hermann Wound Care
- **Dr. Angel Ham**, Anesthesia, Greater Houston Anesthesiology
- **Dr. Miles Mahan**, OB/GYN, Memorial Hermann Northeast Hospital, MHMG
- **Dr. Shahid Rahman**, Cardiovascular Disease Specialist, Greater Houston Heart Specialists
- **Nikki Roux**, VP and CNO, Memorial Hermann Northeast Hospital
- **Jessey Thomas**, Director of Nursing Operations, MHMG

Executive Sponsor:
Chris Lloyd, SVP and CEO, MHMD

Team 4

Describe the differences between the fee-for-service model, global care with control of the premium dollar, and capitation models. Discuss the challenges, risks, opportunities, and how Memorial Hermann can best navigate migration to the more global payment models both in the future, and now, while a significant portion of reimbursement is still fee for service. What are the opportunities and what are the risks?

- **Dr. Rehal Bhojani**, Family Medicine Physician, Memorial Hermann Sugar Land Hospital, MHMG
- **Dr. Doan Do**, Family Medicine Physician, Memorial Hermann Northeast Hospital, MHMG
- **Dr. Ankur Doshi**, Internist, PrimeCare Medical Group
- **Matthew French**, AVP of Operations, MHMG
- **Lori Knowles**, VP of Human Resources, Memorial Hermann Health System
- **Rob McStay**, Associate General Counsel of Physician Affairs, Memorial Hermann Health System
- **Dr. Amit Parikh**, Family Medicine, Houston Center for Family Practice & Sports Medicine

Executive Sponsor:
Dennis Laraway, CFO, Memorial Hermann Health System

Health Management

MHACO Team Brings Benefits to Members

Born and raised in London, England, now U.S. citizen Anne Simpson and her husband moved to Houston in 1968 in search of better employment opportunities. Coming from the United Kingdom, she was wary of hospitals in the United States. However, her experience at Memorial Hermann Health System with the Memorial Hermann Accountable Care Organization (MHACO) ultimately changed her previously conceived perception of this nation's healthcare system.

"I really like Memorial Hermann…it's a great group of people," Anne asserts. "I'm all in favor of Memorial Hermann ACO's Health Management program."

For many years she worked in retail at Houston's Mervyn's, an American department store chain, then she dabbled in healthcare human resources, went back to retail in San Antonio for 10 years, and eventually decided to move back to Houston to be near her son. Although an attorney, he has a medical background and acts as his mom's key health "supervisor." Anne's daughter is a publisher in New York City, and they maintain their special bond with frequent phone calls.

As an aging single mother of two grown children, Anne lived on her own. So when she began experiencing some fainting spells, had a few falls and overall wasn't feeling well, together she and her children decided that, for her own safety, she needed a more supervised living situation.

"I must have incredibly strong bones," Anne laughs, "because I kept falling, but hadn't broken anything yet."

But, even with no broken bones, the change was necessary. She moved into the Brookdale Memorial City Independent Living community, where she has resided for the past three years.

She has received care at Memorial Hermann for several health issues, including a back surgery and the following conditions:

- Hydrocephalus, which occurs when cerebrospinal fluid builds up surrounding the brain and spinal cord
- Spondylolisthesis, a spinal cord disorder where a vertebra slips forward onto the bone below it
- DType 2 diabetes, which occurs when the pancreas still produces insulin, but the body is unable to process the insulin correctly, resulting in insulin resistance
- Hypertension, which is the medical term for high blood pressure, a condition where the stress of the blood against the artery walls is too great

Anne's primary care physician, Anil Thaker, MD, internal medicine physician affiliated with Memorial Hermann Medical Group (MHMG) at Memorial City, takes the lead in overseeing all of her health issues and concerns. For example, when she was concerned about possible symptoms of dementia or Alzheimer's disease, he was able to refer her to a specialist to test for these neuro-degenerative diseases. She describes Dr. Thaker as "an absolute prince among physicians," which must mean a lot coming from one of the Queen's subjects.

However, in December 2014 Anne's health took a turn when she arrived at a Memorial Hermann hospital with a burst appendix. That's when the Memorial Hermann ACO (MHACO) Health Management team met Anne.

MHACO Health Management is an interdisciplinary team that identifies members by recent hospitalizations, emergency center visits, physician referrals, insurance carrier referrals and self-referrals. Navigating healthcare services can be difficult and confusing for members. Knowing who to call, who a member needs to see, and what a member needs to do to successfully manage a chronic illness are common concerns. The interdisciplinary care team empowers members to understand and access quality health care.

Upon discharge from the hospital after her appendectomy, MHACO Health Management nurse Lynette Lloyd, RN, contacted Anne. As a Health Management nurse, Lynette is the initial contact for a member post-discharge, and she works to sign the member up with the appropriate Health Management program. As needed, she can refer a member to a health coach, social worker and pharmacist. In Anne's case, she assigned her to receive Memorial Hermann Home Health rehabilitation, and then registered her with MHACO Health Management's Complex Care program.

Complex Care members are managed by a registered nurse. In some cases, the nurse will collaborate with a condition-specific care navigator. While she was part of the Complex Care program, Anne's Type 2 diabetes was not controlled and needed further health management. She had an elevated A1C, hyperglycemia and an elevated BMI. These findings alerted Lynette to make referrals for pharmacy and health coaching consults. Anne's care team grew by two; Pharmacy Manager Phuong Dinh, Pharm.D, conducted phone consultations, and Health Coach David Garcia, CCP, RHC, CHW, called and visited Anne regularly at her home.

As a Health Management pharmacist, Phuong reviewed Anne's medications with her.

"It's good to have someone go through your medications with you…to tell you what you're taking, why you're taking it, and when and how to take it," Anne comments. "The pharmacist provided me with documents about my medications. I still cart those around with me today because you never know when you will need that information."

Members like Anne who are managing multiple symptoms and conditions may find medication management confusing. Having a pharmacist as part of a member's care team ensures members are educated about their medication routine.

Health coaches like David Garcia personalize the health management process.

"Living with Type 2 diabetes requires a lot of attention," explains Anne. "David helped me come to terms with the new, healthier lifestyle I needed to maintain."

Between phone calls and personal visits, David assisted Anne in managing her weight, nutrition and physical activity, and monitoring her glucose levels.

"David helped Anne improve her diet, which in turn lowered her A1C and regulated her labs," states Lynette.

Having a strong care team also meant Anne had people she could easily talk to when she began to experience the all too common symptoms of depression. But, between her nurse, health coach and pharmacist, her team was able to help Anne feel revitalized.

Member outreach allows the MHACO Health Management team to keep the member at the center of the health management process.

"We keep the patient and the member top of mind in our collaboration with payers. We're taking a holistic approach with our members to not only care for members when they are sick, but helping them to stay healthy," said Nishant "Shaun" Anand, MD, SVP and physician-in-chief of the Memorial Hermann Physician Network (MHMD) and the MHACO.

Redesigning the care delivery model between Memorial Hermann and the payer allows the health system to reduce cost and improve the quality of care. If Memorial Hermann continues to do what is right for the member, reduces duplication, and provides a seamless health management process, then the cost of care naturally decreases; there are fewer infections and complications, as well as lower readmission rates.

"We are collecting more information on the member care record across the health continuum," explains Dr. Anand. "It's an exciting time in health care as we transform the health delivery model for our members."

MHACO Health Management's goal is to transform the quality of care for members with complex needs, by utilizing innovative delivery models and empowering each member with sustainable skills and resources to self-manage care in his or her primary care setting.

"Once all of a member's clinical needs and program goals identified by the Health Management team have been met, the member is considered a graduate of that Health Management program," explains David.

After two years, under the supervision of Anne's PCP Dr. Thaker and the guidance of Registered Nurse Lynette, Health Coach David and Pharmacist Phuong, Anne successfully graduated from the MHACO Health Management Complex Care programs in December 2016.

"Other residents would ask about Memorial Hermann… they wanted to know how they can get in with the Health Management program. I would tell them to just let their doctor know!" Anne comments. "I wish everybody had the benefit that I had…I think I was just really lucky."

Anne has experienced no readmissions or complications within Memorial Hermann Health System since her graduation. Remaining an active member under the care of Dr. Thaker, she has follow-up visits with him every three months.

"Anne, she's wonderful," recalls Lynette. "She has a great sense of humor and a positive attitude, and that plays a big role in members reaching their health goals."

Going forward, Memorial Hermann is excited to continue improving the coordination of care as well as redefining the delivery of care through new innovative models. The System is building the type of coordinated, holistic care that we would want for ourselves and our loved ones – a model that truly emphasizes enhancing the health and wellbeing of our members rather than simply providing "sick care."

Nishant Anand, MD, MHMD Physician-in-Chief;
Dani Hackner, MD, System CMO of Care Management;
Lafe Bauer, Director of MHMD Health Transitions;
Carl Josehart, TIRR CEO & SVP of System Rehab & Post-Acute Care;
Sandra Gomez, MD, MHMD Medical Director of Health Transitions

Supportive Medicine

Achieving Patient Satisfaction Through Closing Gaps in Care

Patients and families frequently report dissatisfaction associated with lack of care coordination, resources, disease management, and attention to symptoms and pain associated with disease or treatment regimen. Supportive Medicine, also known as Palliative Care, is a medical discipline dedicated to mitigating these gaps in patient care. This care is provided by a physician-led, interdisciplinary care team focused on improving the quality of life for patients and their families by reducing the physical and emotional burdens of serious illness. In addition, the team helps address the psychosocial and spiritual needs of patients and their family members.

Supportive Medicine is appropriate at any stage of a serious illness and can be provided together with curative treatment. The team works closely with a patient's primary care physician (PCP) and specialists to coordinate and manage the course of care.

By working closely with the patient's primary care team, the Supportive Medicine team can often stabilize difficult symptoms and allow a patient to continue with his or her current treatment plan. Patients receive Supportive Medicine treatment through inpatient care, Memorial Hermann's Supportive Medicine Home Program and Supportive Outpatient Clinics.

Supportive Medicine Team Members

Nurse practitioners, nurses and physicians, who have received specialized training to manage pain and symptoms caused by serious illness, help patients and their family members with medical decision-making and the process of different treatments. Social workers assess the patients, provide counseling and education on coping, and connect them with necessary resources. Chaplains and counselors offer spiritual care and emotional support for patients and families.

Supportive Medicine Services

Symptom Management: The team provides expertise in treating one or more symptoms related to chronic medical conditions, such as pain, fatigue, constipation, weight loss, weakness, shortness of breath or difficulty sleeping, as well as mental or emotional symptoms such as confusion, depression and anxiety.

Care Coordination: Caring for a patient's serious illness often requires involving multiple medical specialties in the care plan. With the patient's PCP leading the care plan, the Supportive Medicine team helps coordinate smooth transitions of care.

Advance Care Planning: Treatment outcomes can be unpredictable; therefore, the team offers assistance to patients and their families seeking information about coping with issues surrounding disease progression. The goal is to assist in making informed preparations. When appropriate, the team offers in-depth knowledge regarding end-of-life resources and assistance with finding and coordinating care with community services.

Family Support: Whether a patient is seeking a cure or desires balance while living with a chronic medical condition, the Supportive Medicine team offers additional support to patients and their families. Supportive Medicine specialists work hard to communicate clearly and compassionately. Social workers, nurses and chaplains complement physicians by providing counseling and care services.

Growth & Success

Led by Sandra Gomez, MD, medical director of Health Transitions, and Lafe Bauer, director of Health Transitions, the Supportive Medicine team is involved in a delivery system reform incentive payment (DSRIP) project, the 1115 Medicaid Waiver DSRIP Program, which allowed for significant program expansion. In 2016, Memorial Hermann's Supportive Medicine team expanded services from eight to 10 Memorial Hermann hospitals.

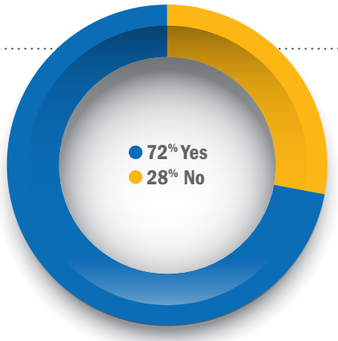
As the Supportive Medicine team expands, leaders are seeing the impact of its services. Expanding the services to two additional hospitals has helped the Supportive Medicine team increase its consult volume by 19 percent from 2015 (4,569 consultations) to 2016 (5,454 consultations). Supportive Medicine is able to effectively direct patients at the end-of-life to hospice services. The 2016 Supportive Medicine Patient and Family Member Satisfaction Survey reports that patients experienced a significant improvement in pain control after receiving consultative services from a Supportive Medicine physician. Additionally, 72 percent of patients indicated they would have preferred to have the Supportive Medicine Team involved earlier in their care process.

Education

The Supportive Medicine team sponsored two symposiums in 2016 to educate the palliative and hospice medical community as well as physicians and nurse practitioners about a variety of competencies tied to quality care.

In April 2016, the Supportive Medicine team hosted the 2nd Annual Memorial Hermann Supportive Medicine Symposium, which proved to be a huge success for the second year in a row. More than 200 guests attended the CME- and CNE-accredited event. Speaker topics included

The Supportive Medicine team, led by **Sandra Gomez**, MD, MHMD Medical Director of Health Transitions, works collaboratively with hospital leadership, such as **Susan Jadlowski**, CEO of Memorial Hermann Greater Heights Hospital, to achieve successful results.



Would You Have Preferred an Earlier Intervention From Supportive Medicine?

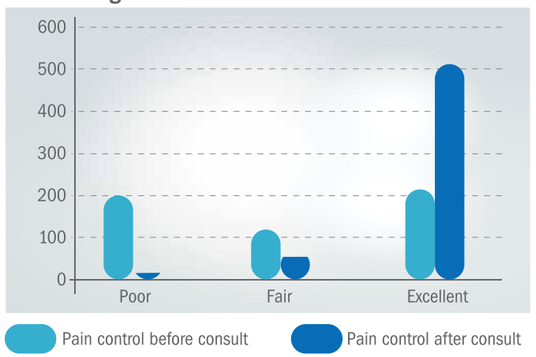
safe and effective use of opioids for chronic pain; managing chronic pain, addiction and dependency in your practice; making tough decisions before the crisis; effective medication management in advanced illness; chronic disease, end of life and religion/spirituality; and strategies for talking to children when a parent is dying.

In November 2016, the MHMD Clinical Programs Committee (CPC) Supportive Medicine Subcommittee held a special symposium entitled "Let's Talk! Examining Communication Skills Through a Different Lens." Open to all physicians in the Greater Houston area and credentialed for three hours of CME and Ethics credits, the educational course provided attendees with strategies in communicating with chronically ill patients.

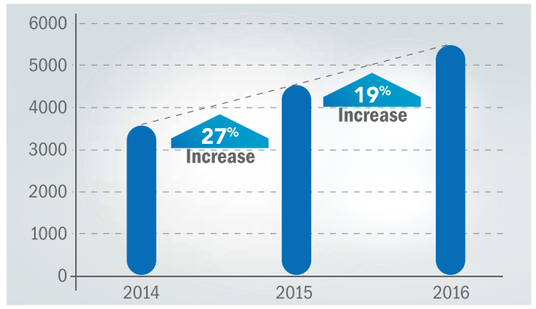
As the Supportive Medicine program continues to grow, the team is continuing to advance management of patient symptoms, pain and stress associated with illness. Additionally, they are focused on strengthening care plan coordination and communication with all stakeholders. It's important that patients and family members are satisfied and understand the course of care developed by Supportive Medicine. The team is also continuing to improve medical staff knowledge and understanding of Supportive Medicine offerings regarding symptom and pain management. Throughout the next year, the team expects to measure continued reduction of unnecessary emergency room visits, hospital admissions, and duration of hospital stays.

Future of Supportive Medicine

Pain Management



Consult Volumes



Benjamin Chu, MD, Memorial Hermann CEO, and **Sandra Gomez**, MD, MHMD Medical Director of Health Transitions, accepts the Circle of Life Award for Celebrating Innovation in Palliative and End-of-Life Care from **Lisa Allen**, AHA CHRO.

AHA honors MHMD's Supportive Medicine Team

MHMD and Supportive Medicine's Symptom Management Consultants (SMC) were named a Circle of Life Citation of Honor recipient for 2016. The American Hospital Association (AHA) selected our organization due to MHMD's impressive integrated supportive medicine partnership between physicians and the hospital system, clinical coordination and financial success in both fee-for-service and ACO environments, affiliations and collaborations with other physicians, and the educational community and cultural and economic diversity served.

This honor is encouraging as MHMD works to continue engaging primary care physicians to close gaps in care continuity and to maintain and build on our robust innovations.

The Circle of Life Award: Celebrating Innovation in Palliative and End-of-Life Care is supported in part by California Healthcare Foundation, based in Oakland, Calif., and Cambia Health Foundation. Major sponsors of the 2016 awards are the AMA, the Catholic Health Association, the National Hospice and Palliative Care Organization, and the National Hospice Foundation. The awards are co-sponsored by the American Academy of Hospice and Palliative Medicine, the Hospice and Palliative Nurses Association, Hospice and Palliative Credentialing Center, the Hospice and Palliative Nurses Foundation, and the National Association of Social Workers.

MHMD and the Supportive Medicine team received the Circle of Life plaque commemorating this achievement at the AHA/Health Forum Leadership Summit in San Diego on July 18, 2016. Memorial Hermann Health System was the only Houston health system honored at the event. Two other programs from Memorial Hermann also received AHA honors, including Memorial Hermann Greater Heights Hospital and the Memorial Hermann Community Benefit Corporation.

Utilizing Integrated Data
to Guide the Path to Population Health

Nicole Clarke-Luck, VP of MHMD & MHMG Finance;
David Bradshaw, System Chief Strategy and Information Officer;
Amanda Hammel, VP of Information Services & Population Health

As the healthcare industry continues to advance to a population health model, the sharing of data becomes more integral to the efficient, safe management of patients. Healthcare systems across the country are plagued with a lack of information to effectively achieve this goal. Memorial Hermann's partnership with Cerner gives our System the unique and unprecedented ability to drill down and apply customized technology to all patient data revealing a new level of transparency across all populations. In order for physicians to have the ability to reduce duplication of services and manage the expenses of health care in this new environment, they need to be given the opportunity to picture the longitudinal view of each patient's healthcare experience across the continuum of care.

The SmartData platform extracts data from multiple sources and consolidates all of the information into one record for patients who have been provided care by Memorial Hermann or an MHMD physician. This platform provides easier, more manageable connections to claims and clinical data. Data sources include claims data, physician office visit records, emergency and hospital visit records, biometrics data from screening events, and data from the Memorial Hermann Information Exchange (MHiE). Additional data sources are added as new payer contracts are signed or new electronic medical record (EMR) data is identified. The SmartData platform provides a consolidated view of data to risk stratify the population and manage high-risk patients. This data prepares Memorial Hermann for a full population health model and gives the System the ability to share risk with payers.

Current applications being used with this platform include SmartRecord, SmartRegistry and SmartAnalytics; SmartCare is scheduled to be implemented by June 2017.

SmartRecord

SmartRecord is a consolidated view of MHiE consented data. Currently available in the Care4 and Clinic Care4 applications, this view was reviewed and approved by a group of physicians to validate the rollup of clinical concepts to reduce duplication.

SmartRegistry

The SmartRegistry application is designed to help clinicians manage the health of a population, one person at a time. Used for preventive care, evidence-based disease management, population health management, physician alignment and clinical integration, this application helps each practice impact the quality of each patient's healthcare experience. SmartRegistry is a comprehensive health management tool that places patients into different registries based on certain health conditions. The goal is to improve and optimize care of individuals and the populations served.

SmartRegistry is designed to be valuable to the physician since it uses all data available from SmartData. Multiple members of the patient's care team, including his or her primary care physician (PCP), case managers and payers, are permitted to access the information or receive reports. Viewing this data helps the care team raise the patient's awareness to gaps in care and provide assistance in accessing these services. There are more than 150 practices currently using the SmartRegistry tool with plans to expand the Registry rollout to the remaining Advanced Primary Care Practices (APCPs) and Specialists.

Work continues with EMR vendors to integrate registry data seamlessly into the provider workflow. To assist with providing more effective patient care for our members, the team is collaborating with eClinicalWorks (eCW)

to implement the ability to pull SmartRegistry and Hierarchical Condition Categories (HCC) data directly into the chart within a physician's workflow to streamline data that is needed.

SmartAnalytics

Using data housed in the SmartData platform, the SmartAnalytics application is being used to organize the information in a range of custom reports and dashboards to track important metrics to drive actionable change. This application provides accurate data to the network physicians and physician leadership, allowing them to respond in a timely manner.

Key metrics the platform measures include:

- Payer Member Months
- Risk Scores
- Risk Adjusted PMPM
- Admits per 1000
- ED Visits per 1000
- Generic Drug Utilization
- Ambulatory Quality
- Network Utilization
- High-Cost Imaging
- Hierarchical Condition Categories
- SmartRegistry Gaps in Care
- Narrow Views of High-Risk and High-Utilization Patients

The tool is also used to run valuable reports, measuring factors impacting healthcare costs including in-network utilization, quality metrics by physician, network claim totals by diagnosis and procedure, and contract payer metrics for optimizing care efforts, and closes gaps that were not identified by the payer. Dashboards tracking episodic care performance and network management have been developed to aid in improving outcomes of the Memorial Hermann Accountable Care Organization (MHACO). This year, SmartAnalytics provided new insight into potential bundled rate opportunities for our network. Coupling cost and clinical data for disease cohorts and service episodes of care is targeted for 2017.

ScheduleNow

ScheduleNow is a free online scheduling tool for patients to search and book real-time appointments. This tool supports provider connectivity and accessibility that is a key component of ACOs and patient-centered medical homes. From physician office visits to mammograms and even emergency center reservations, patients can book their appointments at the click of a mouse. To schedule appointments online, patients visit memorialhermann.org, select the ScheduleNow icon, and choose doctor visit, mammogram, diagnostic imaging, physical therapy, colonoscopy or ER. Then, they follow the prompts to schedule their appointment.

ScheduleNow provides appointment reminders via email, as well as a link to a map for directions. Appointments can be made 24/7 from any Internet-connected device. ScheduleNow is supported by the 713.222.CARE (2273) call center for direct appointments, streamlining the appointment scheduling process by eliminating the warm transfer to the doctor's office. Patients discharged from a Memorial Hermann hospital or Emergency Center can be scheduled for follow-up appointments prior to leaving the campus, which improves clinical outcomes and decreases the likelihood of readmission. ScheduleNow offers unprecedented convenience and accessibility for patients while helping physicians improve the continuum of care they deliver.

MHMD continues to identify opportunities to enhance the technology and information available to physicians, giving them the ability to provide a seamless continuum of care for each and every patient.

Paul Lampi, Director of System Enterprise Analytics and Reporting;
Angie Massey, Director of MHMD Strategic Analytics

Clinical Programs Committee

New Structure Strengthens Collaboration

Fueling Memorial Hermann's Quality Engine

It is helpful to think of the entire Clinical Programs Committee (CPC) structure as being analogous to a System-wide Medical Executive Committee (MEC), with the various departments and sections including representation from all Memorial Hermann facilities and settings, including the ambulatory arena. MHMD strives to develop and mature this structure as the entire healthcare environment continues to evolve toward population health management. In 2016, MHMD underwent restructuring of the CPC organization, grouping more than fifty committees into related groups called programs.

Why the makeover? Over the years since the inception of the CPC, the number of individual committees has grown from the original eight to comprise committees devoted to virtually every specialty. In addition, we have created work groups and task forces to address clinical issues that impact different specialties (e.g., Surgical Home, Diabetes Management, Transitions of Care and Supportive Medicine).

Communication and coordination is a challenge with so many committees, and can result in one committee proposing actions that are inconsistent with actions taken by other CPC committees. Such issues result in a delay of implementation of any proposal. In 2016, there were more than 500 action items approved by committees, and MHMD recognized that the review and implementation process needed to be streamlined. Patients are unable to see the care they receive as being provided by various committees, specialties or work groups. They see the holistic end-to-end care they receive, requiring that we step back and consider the overall impact and perspective of CPC actions on the community, including the patients, our physicians, providers and facilities.

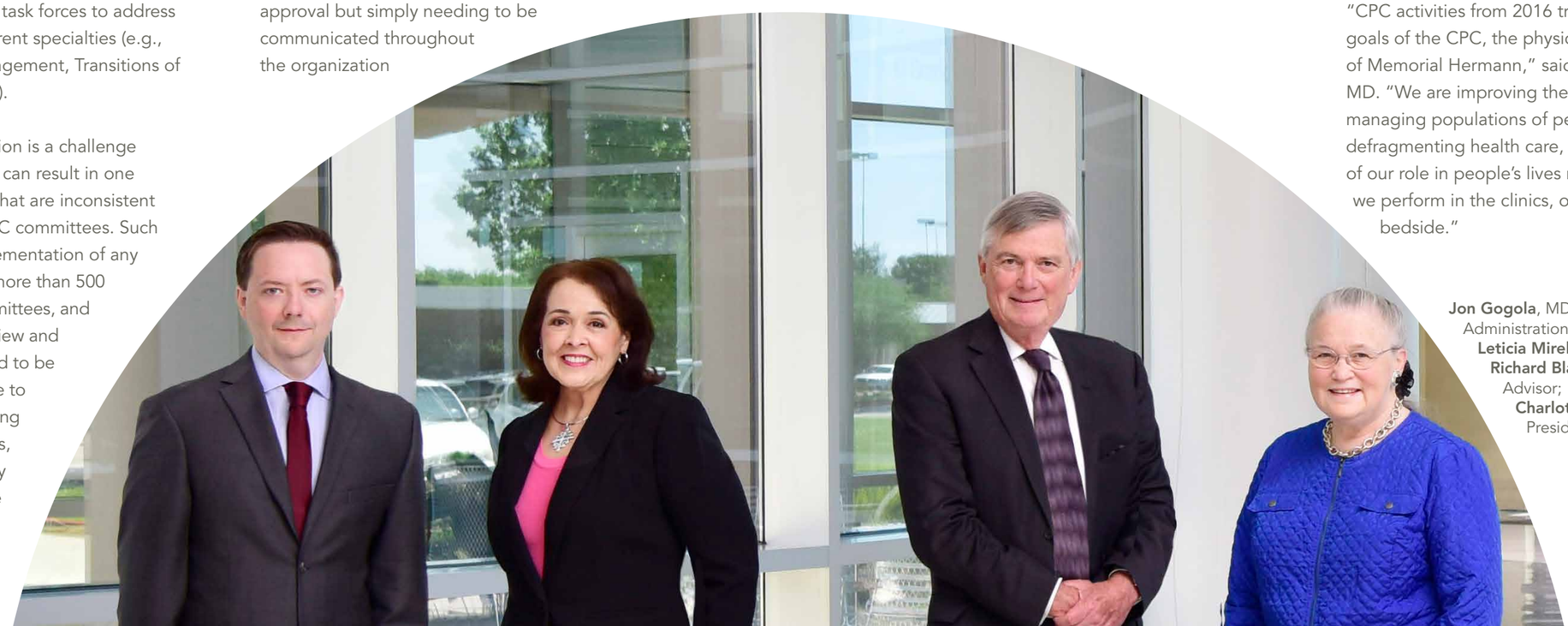
CPC Co-Chairs Charlotte Alexander, MD, and Jon Gogola, MD, addressed this issue. Working with the CPC staff and committee chairs, the CPC committees were grouped into seven programs: Primary Care, Inpatient / Hospital-based, Hospital Medicine, Cardiovascular, Surgery, Critical Care, and Clinical Compliance/Informatics. Each program has a physician director who reviews, coordinates and prioritizes all committee actions. These program directors meet monthly to review action items from the preceding month and rank them into one of three categories:

- Informational - Actions not requiring any further approval but simply needing to be communicated throughout the organization
- Fast Track - Actions needing rapid implementation that do not have any significant impact on physician practice
- Action Items - Actions requiring presentation to the MECs and/or the System Quality Committee for preliminary review and comment or for final approval

Key accomplishments of the CPCs in 2016 include:

- Optimizing of perioperative glucose control to minimize risks for delayed wound healing, surgical site infections and other complications
- Standardizing and reducing pain management order sets in the Cerner EMR to reduce the risks of over-sedation and addiction
- Implementing protocols for converting IV medication administration to the oral route when clinically appropriate to reduce costs and complications
- Implementing the Enhanced Recovery After Surgery (ERAS) program to better prepare patients for surgery and enhance the postoperative period, leading to an earlier return to productive life
- Improving communication and coordination of care as the patient moves through the care continuum to reduce delays, needless repetitions, errors and dissatisfaction
- Implementing Advance Care Planning to incorporate patient values and goals into the clinical decision-making process
- Promoting nutrition by providing education on healthy diet and eating habits, offering healthy food areas in hospital cafeterias, accompanying nutritional information with food offered in the hospital, and reducing sugar-added beverages, fried foods and processed meat from cafeteria and patient menus

"CPC activities from 2016 truly addressed the emerging goals of the CPC, the physician organization, and all of Memorial Hermann," said Charlotte Alexander, MD. "We are improving the health of our community, managing populations of people and not just patients, defragmenting health care, and seeing the big picture of our role in people's lives rather than just the functions we perform in the clinics, operating room or at the bedside."



Jon Gogola, MD, MHMD Chief of Clinical Administration;
Leticia Mireles, Director of MHMD CPCs;
Richard Blakely, MD, MHMD Physician Advisor;
Charlotte Alexander, MD, MHMD President

Physician Network
of Quality Care

LeTesha Montgomery, MHMD COO;
Emmett McDonald, MD, MHMD Executive Board Member;
Kevin Giglio, MD, MHMD Board Chairman;
Victoria Regan, MD, VP of System Women's & Children's Service Line

With the largest growing primary care network in the Houston market area, the Memorial Hermann Physician Network (MHMD) continues to engage physicians in impacting the quality of patient care. With this year's changes in the healthcare industry, MHMD's goal remains transparent with physicians and ensures they receive updates and education regarding the healthcare environment.

In 2016, MHMD ended the year with about 40K covered lives, including exchange and commercial products. Area employers offer employees a quality healthcare experience utilizing a tighter referral network, which lowers employers' cost. And, because MHMD shares information more readily, patients experience reduced duplication of services, improving each patient's continuum of care.

Supporting the growing number of covered lives and the complex healthcare landscape, MHMD has become more sophisticated in launching programs that lead the market and provide solutions for patients and employers.

The Advanced Network

As the network has matured, those physicians who choose to be more tightly aligned have become part of the Advanced Network.

Advanced Primary Care Practices (APCPs) and **Advanced Pediatric Practices (APPs)** are highly aligned, primary care medical practices that engage in the practice of evidence-based medicine and work with network physicians and MHMD staff to facilitate the development of a coordinated care between multiple providers to offer integrated, timely and effective care. These practices participate in population health management processes to identify patients eligible for

wellness or preventive care services, chronic disease management services and complex case management. In 2016, APCPs focused on utilizing the Point of Care tool, using SmartRegistry, and ICD-10 training with MHMD coders and educators. APPs doubled their numbers over the year, growing to 115 physicians, and successfully rolled out an after-hours service and online scheduling tool. APPs and leadership also focused on bringing in more pediatric subspecialty physicians.

Memorial Hermann Physician Partners (MHPPs) are highly aligned medical specialists in the areas of cardiology, gastroenterology, neurology and orthopedics who engage in the practice of evidence-based medicine and work with network physicians to provide streamlined referrals. These practices also participate in IT initiatives supported by MHMD that enhance and facilitate care coordination. In 2016, MHPPs focused on connecting PCPs to specialists through region meetings, developing a plan to expand into five additional specialties and using ScheduleNow to ensure specialists are easily accessible.

By working closely together, these practices better manage quality and cost of care by sharing information, which eliminates test and service duplication. This provides patients with the most seamless continuum of care as the industry moves toward a value-based healthcare model.

In addition to growing the Advanced Practice Network, we have worked to develop a preferred network of post-acute services. Post-acute care can significantly impact cost and efficiency of care offered to each patient if a smooth care transition is not achieved. Memorial Hermann created a network of skilled nursing and home health facilities that meet quality standards expected of MHMD physicians.

By developing this affiliated network of preferred post-acute facilities, efficiency and quality of patient care are better managed, improving each patient's care transition, thus improving patient satisfaction.

Our Strategy

MHMD contracts with government, exchange and commercial products while navigating the shift from fee-for-service to value-based reimbursement. We are driven to improve quality and performance metrics as these are negotiated in our contracts to provide an effective product for the patient to create an incentive potential for network members. MHMD expedites claims or payer issues on behalf of the members to support the contracted effort.

"We're creating partnerships that work in the face of major changes taking place in the healthcare market. We refer to these new relationships as uncharacteristic partnerships with uncharacteristic partners," says Chris Lloyd, CEO.

Our contracting strategy successfully created narrow network products. These products, through benefit and plan design, provide more direct care access for members inside Memorial Hermann Health System and MHMD. To date, these narrow network products represent 135,000 attributed and covered lives in the market.

The network continues to hardwire a culture where physicians are accountable for quality, costs and outcomes. In addition to aligning the care team's goals and incentives, the MHMD is focused on more sophisticated tools to support transparency so providers can collaborate and monitor both population and individual health.

MEMORIAL HERMANN HEALTH SYSTEM AWARDS

TIRR Memorial Hermann Earns Top Honors from *U.S. News & World Report*

For the second consecutive year, TIRR Memorial Hermann is ranked the No. 2 rehabilitation hospital in the United States in *U.S. News & World Report*'s annual Best Hospital rankings. This is the 27th year TIRR Memorial Hermann is featured in the prestigious ranking, which also recognizes Memorial Hermann-Texas Medical Center as the No. 2 overall hospital in Texas. The latter honor is given only to those hospitals that are high performing across multiple areas of care. Specific service lines at Memorial Hermann-TMC appearing in this year's national rankings include cardiology and heart surgery, gastroenterology and gastrointestinal surgery, gynecology, nephrology, neurology and neurosurgery, and urology. Children's Memorial Hermann Hospital also earns recognition in listings for nephrology as well as neurology and neurosurgery.

Memorial Hermann Is Recognized Nationally for High Quality Stroke Programs

The stroke programs of eight Memorial Hermann hospitals earn distinctions from the American Heart Association and American Stroke Association. Mischer Neuroscience Institute at Memorial Hermann-Texas Medical Center earns the Get With The Guidelines–Stroke Gold Plus award and a place on the Target: Stroke Honor Roll Elite Plus. Together, these comprise the two organizations' highest honor, which recognizes the achievement of leading outcomes for two or more consecutive years in the seven stroke achievement measures critical to quality care.

The American Heart Association and American Stroke Association also recognize Memorial Hermann Northeast Hospital and Memorial Hermann The Woodlands Hospital with the Gold Plus award and listing among the Target: Stroke Elite to mark 24 consecutive months of quality stroke performance. Memorial Hermann Southeast Hospital, Memorial Hermann Memorial City Medical Center, Memorial Hermann Greater Heights Hospital, Memorial Hermann Katy Hospital, and Memorial Hermann Southwest Hospital earn distinctions from the organizations as well.

Memorial Hermann Is Recognized Again as One of Houston's Best Places to Work

For the 12th consecutive year, the Memorial Hermann Health System is included in the H*ouston Business Journal*'s Best Places to Work listing. Memorial Hermann achieves the No. 5 spot among Houston's "extra-large" employers and is the *highest-ranking* health system in the city.

Memorial Hermann Is Once Again Named a Top Workplace by *Houston Chronicle*

The Memorial Hermann Health System earns the No. 13 spot in the "large companies" category of the *Houston Chronicle*'s annual list of Top Workplaces in Houston. The health system is the highest ranking healthcare provider included in the 2016 report and one of only 17 companies in Houston to earn a spot on the list for seven consecutive years.

Hospitals & Health Networks Again Names Memorial Hermann Among the Nation's "Most Wired"

For the 12th consecutive year, the Memorial Hermann Health System is named one of the country's "Most Wired" in *Hospitals & Health Networks*'s annual survey of the most technologically sophisticated healthcare organizations. The recognition reinforces Memorial Hermann's efforts to deploy technologies that improve patient documentation, advance clinical decision

support, reinforce evidence-based protocols, reduce the likelihood of medical errors, and rapidly restore access to data in the case of a disaster or outage.

American Heart Association Names the Memorial Hermann Health System a Fit-Friendly Worksite
The Memorial Hermann Health System's recognition for Gold level achievement in the American Heart Association's Fit-Friendly Worksite award program underscores the System's efforts to offer employees physical activity support, healthy eating options, and a culture of wellness.

American Hospital Association Awards Memorial Hermann for Its Commitment to Quality
In a rare accomplishment for a U.S. health system, Memorial Hermann is nationally recognized with awards in multiple categories by the American Hospital Association (AHA). It is the only Houston health system honored at the 2016 Health Forum/AHA Leadership Summit.

Memorial Hermann Greater Heights Hospital is recognized as an AHA McKesson Quest for Quality finalist for demonstrating commitment and progress in achieving quality, safety, and effective, efficient, timely, and patient-centered care. Memorial Hermann's Mobile Dental program earns the AHA NOVA Award for its collaborative efforts in improving community health. And Memorial Hermann's Physician Network and Symptom Management Consultants program receives the AHA's Citation of Honor as a 2016 Circle of Life Award™ winner for innovations in delivering high-quality palliative and end-of-life care.

Society of Thoracic Surgeons Honors Memorial Hermann with Three-Star Rating for Heart Bypass Surgery
The Memorial Hermann Health System earns the Society of Thoracic Surgeons' three-star rating – an achievement given to less than 10 percent of hospitals nationwide – for quality performance in coronary artery bypass graft or heart bypass surgery. This is the first time Memorial Hermann has earned the designation, which compares quality outcomes among hospitals across the country to determine the highest-performing organizations.

SouthEast Texas Regional Advisory Council Names Memorial Hermann Hospitals as Outstanding Care Providers
Three Memorial Hermann Health System hospitals as well as Memorial Hermann Life Flight® earn awards as outstanding care providers from the SouthEast Texas Regional Advisory Council. Memorial Hermann Greater Heights Hospital and Memorial Hermann Southwest Hospital receive Cardiac Awards; Children's Memorial Hermann Hospital earns the Pediatric System of Care Award; and Memorial Hermann Life Flight is named the EMS/Air Medical Partner of the Year.

Memorial Hermann Earns Recognition by American College of Surgeons
Memorial Hermann Greater Heights Hospital, Memorial Hermann Katy Hospital, Memorial Hermann Northeast Hospital, Memorial Hermann Sugar Land Hospital, Memorial Hermann-Texas Medical Center, and Memorial Hermann The Woodlands Hospital achieve validation from the American College of Surgeons' National Surgical Quality Improvement Program for their meritorious surgical care.

GLOSSARY OF TERMS

ACO Service Line Projects (ACOSL)
Service Line-based projects that measure key metrics to manage quality and costs in acute care facilities. These projects are allowed under the umbrella of the Accountable Care Organization as a way to work collaboratively with physicians in order to prepare for bundled payments and value-based care.

Advanced Pediatric Practices (APP)
Highly aligned, pediatric medical practices that engage in the practice of evidence-based medicine and work with network physicians to offer integrated, timely and effective care to their patients. These practices also participate in population health management processes to identify patients eligible for wellness or preventive care services or chronic disease management services.

Advanced Primary Care Practices (APCP)
Highly aligned, primary care medical practices that engage in the practice of evidence-based medicine and work with network physicians and MHMD staff to facilitate the development of a coordinated system of care between multiple providers to offer integrated, timely and effective care. These practices also participate in population health management processes to identify patients eligible for wellness or preventive care services, chronic disease management services and complex case management.

Clinical Integration (CI)
An agreement by independent physicians from every specialty to come together in a common commitment to quality and accountability.

Clinical Programs Committee (CPC)
Physician committees serving as the primary source of evidence-based practices intended to improve quality and efficiency of care.

CPOE or eOrdering
A computerized physician order entry system for medical orders integrated with adverse event data to streamline delivery of safer patient care.

Continuity-of-Care Document
The accepted electronic format for the exchange of clinical information, including patient demographics, medications and allergies.

Diagnosis-Related Group (DRG)
A coding system used in determining reimbursement that classifies hospital cases into groups to identify the products/procedures that a hospital provides.

Electronic Health Record (EHR)
An electronic healthcare tool that can be used to facilitate, inform, measure and sustain improvements in the quality, efficiency and safety of health care.

Evidence-Based Medicine
A collaborative effort between scientific researchers and physicians to deliver better patient outcomes based on patient observation and scientific data.

Meaningful Use
The incentivized use of certified electronic health records technology to achieve health and efficiency goals through data capture and information sharing.

Medical Home
A model of care that builds a long-term healing relationship between the patient and a physician-led care team and uses advanced IT tools, patient care reminders and biometric screenings to optimize patient health.

Medicare Shared Savings Program (MSSP)
An initiative established by the Centers for Medicare & Medicaid Services (CMS) to improve the quality of care for Medicare Fee-For-Service (FFS) beneficiaries and reduce unnecessary costs by sharing monetary savings with participating ACOs.

Memorial Hermann Accountable Care Organization (MHACO)
Memorial Hermann ACO is a group of physicians and other healthcare providers who voluntarily work together with Medicare to provide high-quality service and care at the right time in the right setting.

Memorial Hermann Physician Partner (MHPP)
Highly aligned medical specialists in the areas of orthopedics, gastroenterology, cardiology and neurology who engage in the practice of evidence-based medicine and work with network physicians to provide streamlined referrals and enhanced communication with the referring physician. These practices also participate in the IT initiatives supported by MHMD that enhance and facilitate care coordination.

National Care Quality Association (NCQA)
NCQA provides accreditation and certification of patient-centered medical homes and provider organizations.

Order Sets
Standard collection of predetermined medications and interventions appropriate to a particular disease, condition or procedure and proven to lead to better clinical outcomes.

Population Health Management
A model for providing care for large populations of people based on establishing ongoing primary care and specialty care relationships for individuals, and assisting physicians in analyzing data across entire patient populations.

MHMD

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