Message from the CEO

As we look back over the past year, it is important to take stock of what we have accomplished, the reasoning behind our actions, and the effectiveness with which we utilized the dollars in our budget. 2017 was a year of continued growth for Yale Medicine, both in terms of clinical income and patient visits, and in the strategic expansion of the practice through new facilities, new technologies and enhanced outreach. It was a year in which we responded to external changes, such as the continued transition toward value-based payments, and internal demands, with initiatives designed to reduce administrative burdens and help physicians free up time to spend on the more meaningful aspects of their work.

In this message and in the pages that follow, we report on some of the key initiatives that Yale Medicine pursued and that moved the practice forward in 2017. While not a comprehensive list, these initiatives are being highlighted because they reflect both the breadth and depth of our practice and the complex issues we all face. I want to stress that we undertake every initiative with multiple engaged physician leaders, and we are always focused on cost containment and efficiency. Each and every project must have a meaningful return on investment (ROI). The ROI of a given project can be measured in dollars (the most common measurement metric), physician benefit (the project return may be workflow efficiency, physician satisfaction or some other less tangible metric), patient experience or other important measures.

Following are some key metrics and achievements from the past year that illustrate how Yale Medicine is achieving a positive ROI and moving forward for the benefit of our patients, physicians and staff.

FINANCE

So, how good are we at collecting the dollars for physician services? What is the best metric to determine how well YM is collecting on physicians' clinical work?

Many physicians compare their billed charges to collections. This ratio of charges/collections is typically expressed as "collections on the dollar." For example, I often hear "we only collect 30 cents on the dollar of billed charges." But this ratio does not really tell us much because our prices, or "charges," change each year. The net impact is that this metric can get worse, and often does, each year, yet we are collecting more dollars for each relative value unit (RVU). So what metrics do we follow?

**Net Collection Rate**—This is calculated by dividing payments received from insurers and patients by the payments agreed upon with insurers and patients. This metric closely tracks our ability to actually collect the money owed by third parties. The last nationally published comparison across academic practices had Yale Medicine performing well above others at a 92.6 percent net collection rate versus a national median of 90.7 percent.

**Days in Accounts Receivable**—This is a measure of the average number of days that it takes us to collect payment after our physicians have billed for their services. For this metric, a lower number is better, indicating that we are getting our money more quickly. Again, Yale Medicine performs well when compared with other academic practices, with our days in accounts receivable outstanding at 34.6 versus a national median of 38.4.

Of course, in addition to focusing on our revenue capture, we are always mindful of the expense side of the equation. As Yale Medicine continues to grow in the coming years, we will continue to be judicious in our administrative expenses to support the clinical growth.

You can read more about Yale Medicine’s financial outlook and the transition to value-based payments on page 7.

QUALITY

The YM Board further strengthened Yale Medicine’s commitment to quality in 2017 with the establishment of a Quality Committee, chaired by Peter Schulam, MD, PhD, chair of the Department of Urology. This new committee will provide strategic direction for Yale Medicine quality, develop and monitor quality standards, and recommend the requisite infrastructure and physician oversight required for public and payer reporting. Together with Finance, the Quality Committee will develop an ongoing plan to support and align the various value-based payment programs to minimize dollars at risk and increase performance rates in order to maximize incentives. In summary, the committee will help guide a cultural transformation from one of reactive responses to external reporting requirements to a more comprehensive and innovative quality program that engages the entire clinical faculty.

Yale Medicine also is joining with the Yale New Haven Health System on the recruitment of a leading Chief Quality Officer. Collectively, these investments will yield large returns for the practice, both in the quality of care domain and in enhanced economic returns.

Further information about the new Quality Committee and the recruitment of a Chief Quality Officer is available on page 8.
NETWORK DEVELOPMENT AND STRATEGY

This was the first full year of operation for Yale Medicine’s Center for Musculoskeletal Care (CMC) in Stamford. The CMC is our first major effort to penetrate the Fairfield County market, with a multispecialty model that includes orthopaedics, neurosurgery, rheumatology, neurology, physiatry and pain specialists. In addition, for the first time we fully integrated Northeast Medical Group (NEMG) primary care providers into our care model.

The Stamford practice, located at Long Ridge Medical Center (LRMC), has continued to show strong growth in new patient volume (a 60 percent increase) since opening its doors in fall 2016 despite an extremely competitive market. The number of physicians referring patients to the Stamford practice has almost doubled since the second quarter of FY ’17.

In addition, the opening of the multispecialty clinic has had an unexpected ripple effect on utilization in the New Haven market. Patients originating from lower Fairfield County have generated almost an equal amount of wRVUs in New Haven as in Stamford.

Long Ridge Medical Center—New Patients & Provider Referral Trends

Yale Medicine also has continued to develop and expand its Physician Liaison Program, which has been very successful in cultivating new referral sources throughout the state. YM’s physician liaisons connect community physicians and their staffs with Yale Medicine specialists, provide them with information on new programs and services, and assist in the resolution of service-related issues.

In 2017, Yale Medicine’s four physician liaisons traveled throughout Connecticut, visiting 641 practices and speaking with 1,215 community physicians. In total, Yale Medicine’s outreach efforts in 2017 resulted in 572 new referring providers and 10,901 new patient referrals, which brought an additional $13.84 million to the practice.

YM Physician Outreach Overview—CY 2017

- 4 physician liaisons
- 4 Clinical Trials promoted
- 7 clinical programs supported
- 15 physician Lunch/Dinner meetings
- 641 practices visited
- 1,215 community physicians visited
- 18,900 miles traveled to promote Yale Medicine across the state
- 572 new referring providers to Yale Medicine
- 10,901 new patient referrals to Yale Medicine
- 15 virtual consultations and second opinions
- 6 patients converted from second opinions
- 13.84MM value increase of new patient referrals
The Network Development and Strategy team also has worked closely with most of the Yale School of Medicine departments to create business plans to enable the addition of new clinical faculty through recruitments and community practice acquisitions, allowing for increased access to YM physicians in new markets.

For more on YM’s Network Development and Strategy initiatives, see page 10.

OPERATIONS

Over the past three years, Yale Clinical Optimization Services (YCOS) and the YM Operations team have been working on optimizing our clinic activity, with the primary objective of enhancing the patient and provider experience across the enterprise. Many changes and process improvements have been implemented, with tangible success. (See Clinical Transformation article on page 14.)

What follows is a brief description of the benefits and/or metrics reported in these initiatives.

• Ambulatory Volumes—1,054,122 patient visits for the calendar year January–December 2017, representing a 7.21 percent increase over the 2016 calendar year.

• Yale Physicians Building (YPB) Room Utilization—Room turnover rate remains consistent at seven per day (national norm for academic medical centers is four to six turnovers per day).

• Copay Collection—YM copay collections held steady in 2017 at about 56 percent. However, in Yale Medicine Administration (YMA)-managed departments, copay collections increased from 74 percent to 82 percent as a result of internal campaigns.

• Bump Rate—Decreased by 80 percent (2.5 percent in 2016 vs. 0.5 percent in 2017, better than many of our peers nationally).

• Patient Satisfaction—Press Ganey remains consistent with a score of 92.5.

Additionally, and as detailed on pages 16–19 of this report, 2017 saw the marked advancement of technology across our clinical enterprise. Whether patient or physician-focused, the many technological innovations implemented over the past year share the common goal of enhancing patient care. Most importantly, they signal our continued commitment to leveraging technology to provide a better experience for both patient and physician.

Last but not least, 2017 also marked the relocation of the HAVEN Free Clinic to the Yale Physicians Building. HAVEN is a highly regarded, student-run primary care clinic providing free health care to uninsured members of the community. As the only free clinic in the area, HAVEN serves as a critical safety net for those who have no other means of obtaining health care. In this new location, HAVEN has been able to expand its reach to the entire New Haven community, further strengthening Yale and HAVEN’s shared goals of community engagement and student education.

MOVING FORWARD

As you read through this Year in Review, I hope you will get a sense of the forward movement of our practice and the vigor with which we are addressing both external and internal challenges. We are working to provide the best possible return on investment for our patients, physicians and staff, while renewing our commitment to becoming one of the premier medical groups in the country. Thanks to our faculty and staff for all of your exceptional work in 2017. I look forward to working with you in the year ahead, as we take the practice to ever greater heights.

Sincerely,

Paul Taheri, MD, MBA
CEO, Yale Medicine
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<td>265</td>
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<tr>
<td>Nonphysician Providers**</td>
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* Decrease in the number of clinical trials is due to an accrual hold by the Cancer Center and a focus on applying for renewal of the NIH Clinical and Translational Science Award.

** Includes Advanced Practice Registered Nurses, Physician Assistants, Licensed Nurse Midwives, Certified Nurse Anesthetists, Licensed Clinical Social Workers, Audiologists, and other health care providers.
Yale Medicine continued to experience strong growth in FY 2017, with total clinical income of $883 million—an increase of about $79 million, or 9.8 percent, over the prior fiscal year.

This comes at a time when Yale Medicine and providers throughout the country are preparing for a dramatic shift in payment methods, as the Centers for Medicare & Medicaid Services (CMS) move from a traditional fee-for-service model to a system where payments are tied to value, quality and outcomes. Going forward, providers must compile and submit reports on a wide range of performance metrics in order to avoid penalties and earn financial incentives.

Yale Medicine has been successfully transitioning to this new model in a number of ways.

In 2017, Yale Medicine attested successfully for 99 percent of its 710 eligible professionals to meet Meaningful Use (MU) program requirements. These attestations brought in over $4 million in Electronic Health Record (EHR) incentive dollars from CMS. Meaningful use sets specific objectives regarding the use of EHR technology to improve quality, safety, efficiency, care coordination and other factors.

YM also successfully reported as a group to the Physician Quality Reporting System (PQRS) utilizing its EHR Direct (Epic) system on behalf of Yale Medicine and Yale Health Plan. The successful attestations to the MU and PQRS programs enabled Yale Medicine to meet the CMS’s regulatory requirements and avoid penalties that were estimated at $1.7 million in Medicare payment adjustments.

In the fourth quarter of 2017, Yale Medicine received its 2016 Annual Quality and Resource Use Report (QRUR), which provided Yale University’s performance in calendar year 2016 on the quality and cost measures that will be used to calculate reimbursements for 2018. Yale University’s overall performance was determined to be average on both quality and cost measures. This translates to a neutral adjustment to our Medicare physician fee schedule for 2018 and no impact to our Medicare payments. If our performance had come in at below average for both quality and cost measures, it could have resulted in up to a 4 percent negative adjustment to our Medicare payments, an estimated $2.4 million.

Commercial payers are following the lead of the CMS with regard to adopting value-based care payment protocols. Yale Medicine has entered into pay-for-performance agreements which generated over $900,000 in 2017. These agreements are based on a combination of hitting performance thresholds on quality measures and reducing overall cost of care for patients.

In response to the move toward value-based payments, a Quality Committee has been created (see page 8). Two work groups within the committee (Finance and Clinical/Operations) will develop ongoing plans to support and align the various value-based payment programs to minimize dollars at risk and reach benchmarks to earn incentives. These groups will be responsible for selecting quality measures, monitoring benchmarks and identifying workflows that will improve performance and bring awareness to the practice.
New Committee Strengthens YM's Commitment to Quality

Quality is at the very core of Yale Medicine’s mission, from patient care to clinical advancements to professional development and support for our physicians. In 2017, Yale Medicine, in partnership with Yale New Haven Health, further strengthened its commitment to quality with the establishment of a Quality Committee and the search for a chief quality officer.

The new Quality Committee is one of five committees of the YM Board. It is chaired by Peter Schulam, MD, PhD, chair of the Department of Urology, and it includes members from both Yale Medicine and Yale New Haven Hospital. Click here to see the list of committee members.

The hospital’s representation on the committee is critically important, Schulam says, as Yale Medicine and YNHH work to align clinical practices and quality standards in order to operate seamlessly as a health system, rather than as separate organizations.

“The formation of this committee stresses the importance of quality within Yale Medicine, and the diversity of the committee recognizes the need for us to partner and work across the system,” Schulam says. “We all need to begin to use the same metrics, the same dashboards, and really drive the same level of accountability across the system.”

In addition to enhancing quality and supporting clinical integration within the health system, the Quality Committee will play a vital role in developing, reviewing and analyzing the metrics that will serve as the basis for Medicare and Medicaid reimbursements as the government moves toward value-based payments (see article on page 7). During the committee’s first year, members have been learning about the complex network of metrics that are tracked,
and how they are used both internally and externally.

“We are really doing a deep dive to begin to understand how these metrics are formed, what’s being reported, and how we report them. Before we can fix anything, we have to understand the data,” Schulam says. “The ultimate goal is to identify the opportunities that the data represent and recommend plans and actions that will maximize our performance.”

CHIEF QUALITY OFFICER

As part of the enhanced focus on quality, Yale Medicine and the Yale New Haven Health System have been conducting a national search for a chief quality officer—a new position that will report jointly to both organizations.

“The chief quality officer will be the glue that’s going to bring together each of the system members so that there’s consistent metrics and performance,” Schulam says. “Each individual member of the health system has quality initiatives, but what we need to do is systemize them, and that’s going to be the responsibility of the chief quality officer.”

A chief quality officer is expected to be named in early 2018.

For more information, please contact Chief Administrative Officer Fred Borrelli at frederick.borrelli@yale.edu.
Extending Yale Medicine’s Regional, National and Global Reach

Yale Medicine is well-positioned to extend the delivery of its world-renowned care to an ever-expanding patient population, through targeted growth of its physician base and such strategic initiatives as telehealth, virtual second opinions and international medicine. The Network Development and Strategy (ND&S) team works to identify and leverage these and other opportunities for strategic growth, while maintaining Yale Medicine’s focus on providing superior patient experiences and health outcomes.

**TELEHEALTH**

Experts estimate that the number of patients worldwide utilizing telehealth services will increase from as little as 350,000 in 2013 to 7 million in 2018, with the number expected to continue its dramatic growth in the years to come. Yale Medicine has firmly embraced this trend, having launched telehealth programs in four clinical departments with a number of others scheduled to go live in the coming year.

Working in collaboration with Yale New Haven Health, Yale Medicine has developed a telehealth strategy and has the technology in place to support telehealth visits within Epic. YM’s Network Development and Strategy team has been working with departments to establish their telehealth priorities, and will continue these meetings in the year ahead.

Telehealth programs at Yale Medicine take a variety of forms, including video visits between patients and physicians, e-consults between providers, and remote device monitor-
ing. For example, doctors in Pediatric Surgery and Transplant Surgery are conducting some of their post-op visits with patients by video, saving patients and their families a tremendous amount of time and disruption to their daily lives.

VIRTUAL SECOND OPINIONS

Technological advances also enable Yale Medicine to share its expertise with patients across the country who seek second opinions from highly regarded specialty physicians.

For more than two years, Yale Medicine has provided second opinions as well as face-to-face consultations to members of PinnacleCare, a firm that coordinates and manages health care for its members. In 2017, YM expanded its partnership with PinnacleCare to offer this service to any patients (regardless of membership) who seek the opinion of a Yale Medicine provider. Patients can submit a request for a second opinion through the Yale Medicine website. The patient request is then triaged by PinnacleCare’s medical team, which works directly with patients to collect relevant health records and develop a set of questions to submit to YM specialists for review.

Yale Medicine has also contracted with Grand Rounds, another health management firm, to provide its national membership with access to second opinions from Yale Medicine specialists. Together, these partnerships provide YM with the ability to expand access to patients across the country and strengthen our national brand and reputation as leaders in health care.

INTERNATIONAL MEDICINE PROGRAM

The International Medicine Program (IMP), led by Yale Medicine in collaboration with Yale New Haven Hospital, offers access to expert medical care for patients from around the world. International patients enjoy the benefits of a world renowned academic medical center with doctors known for their expertise in treating complex, highly specialized cases. At the same time, patients and their families receive personalized assistance and support at every step along the way, including travel arrangements, interpreter services, religious and dietary needs, scheduling of medical procedures, financial arrangements and much more.

Close to 100 international patients came to Yale in 2016, the first year of the IMP, and the final number for 2017 is expected to be even higher. Yale Medicine is currently working to establish and expand strategic partnerships with physicians and organizations in other countries.

It is important that all international patients who come to Yale do so through the International Medicine Program. For more information about the program and how to refer patients, click here.

STRATEGIC GROWTH

As part of various strategic imperatives and growth initiatives, the ND&S team works to support clinical departments by identifying areas of opportunity to leverage strategic growth. Here are some of the other ways that ND&S has been working to achieve those goals:

Business Planning — The ND&S team has worked with the majority of clinical departments to create business plans to enable the addition of new clinical faculty through recruitments as well as community practice acquisitions. The team completed 24 business plans in 2017 supporting most departments.

Ambulatory Development — The ND&S team has spearheaded West Campus planning and programming efforts to further Yale Medicine’s Ambulatory Strategy and allow for space-constrained programs in New Haven to find a new home and greatly improve the patient experience. The staff has been actively engaged with the departments’ clinical and administrative leads to finalize clinical programming and growth assumptions towards creating centers of excellence. YM is also working closely with YNHH to align our ambulatory planning efforts in the greater New Haven area.

Clinical Services at YNHHS — ND&S continues to engage with Yale New Haven Health System (YNHHS) leadership to expand clinical services at system hospitals—such as the expansion of heart and vascular services at Lawrence + Memorial Hospital and outpatient interventional radiology services at Bridgeport Hospital—and to ensure Yale Medicine quality of care to all patients across the health system.

Clinical Program Development — The ND&S team has taken a leadership role in developing complex new clinical programs. Clinical program development requires a deep understanding of the goals of the program,
the underlying science, the various components and how they interact with each other. ND&S translates that vision to financial reality through detailed assumptions grounded in actuals like the Strengthening Clinical Genetics program and the Comprehensive Weight Management program.

**Strategic Analyses**—ND&S has continued to augment the core business planning efforts with strategic analyses to inform and answer key business questions. The team has completed a network integrity analysis, Yale Health Plan utilization trend analysis as well as numerous other ad-hoc analytical exercises to help answer productivity, payer mix, utilization and other critical business operation questions to drive decision-making. The ND&S team has delivered comprehensive market analyses for Nephrology and GI practices to help departments understand the current competitive environment along with actionable insights to strategically grow the practices.

The ND&S team will continue these efforts in 2018, with increased focus on analytics for decision support as well as improved centralization and patient access across the organization.

**NEW WEBSITE AND DIGITAL MARKETING CAMPAIGN PROMOTE YM TO THE WORLD**

Yale Medicine’s online presence grew dramatically in 2017, with the launch of a compelling, consumer-friendly website and a digital marketing campaign.

The new Yale Medicine website ([yalemedicine.org](http://yalemedicine.org)), which went live in April and evolved throughout the year, continues the YM branding initiative that began in 2016, providing a powerful showcase for the practice’s new institutional identity.
The site was designed to support consumer searches and to become a destination for health and medical information, with comprehensive material on an extensive range of medical conditions, treatments and procedures, and links to Yale Medicine physicians.

The website is built around the concept of “content marketing”—promoting Yale Medicine indirectly through absorbing personal stories about patients, physicians and medical breakthroughs. Recent stories have covered such subjects as the development of an “artificial pancreas” for patients with Type 1 diabetes; the use of deep brain stimulation to treat patients with Parkinson’s Disease; and an orthopaedic surgeon whose experience as an Irish dancer helps inform his practice of sports medicine.

Yale Medicine’s content marketing strategy makes extensive use of video to tell engaging stories on the YM website and provide useful health tips on social media. The communications team also has started creating 60- to 90-second video profiles of YM physicians, focusing on the unique interests and points of view of each doctor.

Yale Medicine is closely tracking use of the site. Each month, the Office of Communications creates dashboards with detailed analytics that show how many people visited the YM website over the previous 30 days, how they got to the site, which content was the most well-read, and much more. Currently, the Yale Medicine website has more than 55,000 users per month.

The new website relies on ongoing physician participation; physicians are encouraged to suggest story ideas, participate in content creation, promote stories on their social media platforms and update their profiles regularly through the News and People Profile System at profile.yale.edu. For instructions on how to make changes to your profile, go to inside.yalemedicine.org/support.

This past fall, Yale Medicine took its online promotions a step further with a digital marketing campaign consisting of paid advertising on search engines and pay-per-click ads that promote physicians and services. The communications team is working with an agency specializing in digital marketing for health care organizations in order to achieve optimal results.

Other initiatives underway include the creation of social media platforms specifically for Yale Medicine on Facebook, Twitter and Instagram. The idea is to grow Yale Medicine’s audience on each platform, build brand awareness and drive traffic to the YM website, with the ultimate goal of growing practice volume.

For more information, please contact Chief Strategy Officer Kimbirly Moriarty at kimbirly.moriarty@yale.edu.
Clinical Transformation

Optimizing the Patient and Provider Experience

Efforts to provide an exceptional experience for patients and physicians in any ambulatory practice must begin with a comprehensive, unflinching review of the practice’s current operations. That’s where Yale Clinical Optimization Services (YCOS) comes in.

The YCOS team conducts such assessments across Yale Medicine and Yale New Haven Hospital ambulatory sites, identifies opportunities for improvement, and issues a variety of recommendations, from workflow changes to physical renovations. The team’s work has resulted in measurable improvements in many areas, including higher patient satisfaction scores, improved patient access, and decreased costs.

In 2017, YCOS continued this important work. Among its recent success stories is the Pediatric Primary Care Center on Howard Avenue, where the team’s efforts resulted in new work space for physicians, a new sub-waiting room for patients, patient tracker screens and other physical improvements. In addition, staffing ratios and workflows were adjusted to allow for better scheduling and access, and to accommodate more patients in need of urgent care who would otherwise have to go to the hospital emergency room.

Another area that recently benefitted from clinical optimization is Digestive Diseases. The YCOS team helped implement a variety of changes, including the hiring of a nurse navigator who prepares patients for open access endoscopies and becomes their main point of contact. The result has been a 50 percent reduction in the no-show rate for open access endoscopies. Digestive Diseases also hired a practice manager, better utilized APRNs, and adjusted space scheduling to open up an additional 600 patient slots per month.

At the Child Study Center (CSC), the YCOS team helped implement a new Press Ganey patient satisfaction survey geared specifically toward children’s mental health services. Other improvements to come out of clinical optimization at the CSC include the creation of a central call line (1-844-362-YCSC) and the transitioning of CSC billing to Epic, resulting in a 37 percent increase in collections.

YCOS is currently engaged in 13 different areas, and recently completed assessments of Rheumatology and the YNHH adult Primary Care Centers at the York Street Campus and St. Raphael Campus.
POPULATION HEALTH

The goal of the population health team is to excel in the design, coordination and delivery of high-quality care and services that support the health and well-being of our patient population. To accomplish this goal, the team partners with all of the different areas of Yale Medicine and collaborates closely with their counterparts at Yale New Haven Health.

Following are some of the population health initiatives and achievements of 2017:

- The Transforming Clinical Practice Initiative (TCPI) is a program of the Centers for Medicare and Medicaid Services (CMS) to help promote payment and practice reform, establish community-based health teams for chronic care management, promote care coordination between providers and improve quality while reducing cost. The population health team has performed baseline assessments across our delivery network to help identify areas with opportunities for change. The team is now partnering with YCOS to assist with the implementation of some of the transformation initiatives.

- A great success this past year was the certification of Yale Internal Medicine Associates (YIMA) as a Patient-Centered Medical Home (PCMH). PCMH is a model that places patients at the forefront of care through a coordinated and comprehensive delivery model. It has been shown to improve quality and patient satisfaction while reducing cost. YCOS and the population health team were able to partner with YIMA to help them achieve the PCMH status.

- YM’s Value-based Payments Clinical Operations Committee, a multi-disciplinary group of Yale Medicine and Yale Health physicians and operations specialists, recently selected nine measures (click here to see the nine measures) for Yale Medicine to focus on improving as a practice. The population health team will oversee the implementation of these metrics in our practice areas. Yale Medicine will use metrics from these nine areas to measure its progress in meeting quality goals, and YCOS will integrate the metrics into its clinical assessments.

- Yale Medicine recently joined the third wave of the AAMC Project Coordinating Optimal Referral Experience (CORE) program. Project CORE aims to improve the quality of care and the patient experience while reducing the overall cost of care, by enhancing communication and coordination between primary care providers and specialty physicians through the use of e-consults and enhanced referrals.

CLINICAL INNOVATION

Clinical initiatives such as patient monitors and waiting room informational screens continue to expand. Patient monitors in clinics allow providers and staff to identify the location of a patient in real-time. They are installed in both provider workrooms and clinic hallways to maximize communication. Waiting room screens provide important information for patients in case there are delays in seeing their provider. The screens have information about MyChart, Press Ganey Surveys, physician profiles, active research trials and important clinical information, either specific to that clinic or general medical care (e.g., flu shot). We have received significant positive feedback regarding these screens and the information provided to our patients.

For more information, please contact Chief Clinical Transformation Officer Babar Khokhar at babar.khokhar@yale.edu.
LESS TIME TYPING, MORE TIME CARING

Among the challenges facing today’s physicians is the amount of time required for administrative functions, leaving less time for the most important and meaningful aspect of their job—patient care.

During the past year, Yale Medicine, in conjunction with Yale New Haven Health System, launched a number of initiatives that leverage technology to reduce the administrative burdens on physicians, allowing them to focus more of their time on patients. These initiatives promote physician well-being and create operational efficiencies, while concurrently enhancing patient care.

One example of this is the recent **integration and automation of controlled substances prescribing and monitoring**. All Yale Medicine and YNHH physicians now have access to the State of Connecticut information repository for controlled substances embedded in the prescribing workflow in Epic, Yale’s electronic health record (EHR) system. This enables physicians to easily access critical information regarding prescriptions of opioids and other controlled substances. In addition to strengthening patient safety measures, the newly integrated system saves time, enhances workflow in Epic, and saves physicians from the cumbersome process of having to access separate systems with different log-ins.
Following are some of the other technology initiatives that Yale Medicine and YNHH are in the process of implementing to create efficiencies for clinicians. See an infographic showing the schedule and the progress-to-date for rolling out these initiatives.

**Mobile Heartbeat**—Mobile Heartbeat is a technology platform and mobile app that enables the care team to communicate more efficiently and securely, through HIPAA-compliant texting, voice messaging and patient-specific alerts. Integration with Epic allows real-time, actionable, patient-specific collaboration among team members, accelerating and improving care coordination. Once the last phase of the practice-wide rollout concludes in spring 2018, more than 1,400 Yale Medicine physicians will have Mobile Heartbeat-equipped phones.

**Tap & Go**—This technology eliminates the need for repetitive typing of a clinician’s username and password to sign-in to Epic. After a single sign-in once in 12 hours, a quick badge swipe creates the log-in and navigates to the active chart. Yale Medicine began a phased rollout in summer 2017; the rollout will continue until all clinical sites have been equipped with Tap & Go.

**Voice Recognition Technology**—M*Modal Fluency Direct Update is a next-generation, all-in-one speech recognition solution that enables physicians to conversationally create, review, edit and sign clinical notes directly within Epic. Experiences to date demonstrate a significant reduction in time to complete and close encounters (by about one-half), and a reduction in the total time spent documenting. Over 1,500 clinicians are now using M*Modal in their practices and in YNHH system hospitals.

**Virtual Scribes**—Virtual scribe technology allows physicians to focus on their patients while a scribe documents the visit from a remote location. Virtual scribes provide synchronous, off-site scribing services including note creation and documentation, chart navigation, and pending of non-medication orders. In 2017, virtual scribes were piloted in Neurology, Urology, Cardiology, Otolaryngology and Orthopaedics. The goal of the pilots is to assess how the use of an off-site, trained medical scribe impacts physician and support staff workflow, the quality of the patient interaction, and medical documentation. Assuming favorable results, the pilot will be expanded to additional sites and providers in 2018.

For more information, please contact Chief Operating Officer Maryam Saeri at maryam.saeri@yale.edu.
Empowering Patients Through Self-service Technologies

At the heart of a truly patient-centric care model are patients who are actively engaged in the management of their own health. With this aim in mind, Yale Medicine launched initiatives in 2017 to increase enrollment in MyChart, our secure online portal for patients. Through the combination of an awareness campaign, the addition of new self-service functionalities, and workflow changes to facilitate individual activations, patient utilization of MyChart increased by 21 percent in just 10 months, with a total of 248,417 patients active on MyChart as of December 2017.

Following are some of the new functionalities that were, and continue to be, added to MyChart (click to see an infographic showing the schedule and the progress-to-date for new functionalities).

- **Electronic Check-In** (eCheck-In) allows patients to complete much of the check-in process for their appointment on their phone, tablet or laptop. As a result, when they arrive for their appointment, the check-in process is much shorter and more streamlined. Since eCheck-in was launched practice-wide in March 2017, over 24,000 patients have used it to check in for more than 44,000 appointments.

- The “Track My Health” feature enables patients to record and track health metrics—such as blood pressure, blood sugar and weight—in an easy and uniform manner, while...
seamlessly importing this data into the patient’s electronic health record. Physicians determine which metrics will be tracked, with the option to directly or indirectly (i.e. via a delegate) receive alerts if any of the tracked values go outside of provider-established ranges. Pilots will be conducted in early 2018 at the YM Diabetes Center and in the Cardiology and Neurology departments.

- The **Electronic Patient Questionnaire** allows patients to complete their medical history in advance of their appointment. In addition to streamlining the check-in process, this tool facilitates the capture of more thorough and accurate data, collected at the patient’s convenience. The electronic patient questionnaire was piloted in 2017 at Yale Internal Medicine Associates (YIMA), and it will be deployed in other departments in 2018.

- The **Interactive Wait List (“Fast Pass”)** affords patients the opportunity to be placed on a waiting list and receive a notification through MyChart when an earlier appointment becomes available, resulting in improved access for patients and fewer unused appointment slots. Pilots have been underway in Digestive Diseases, YNHH Pediatrics, and Northeast Medical Group (NEMG).

- **eScheduling** will allow new and existing patients to find doctors and schedule appointments electronically using MyChart. This function will be piloted in several physician practices in early 2018.

For more information, please contact Chief Operating Officer Maryam Saeri at maryam.saeri@yale.edu.
Yale Medicine opened several new clinical facilities in 2017 with the goal of providing more patient-centric care in welcoming environments featuring state-of-the-art technology. The new facilities include clinics dedicated to the latest advances in urology/pelvic medicine and dermatology.

In addition, portions of the Yale Physicians Building underwent renovations in order to provide more efficient and aesthetically pleasing spaces for patients, as well as for clinical faculty and staff.

Looking ahead, construction is scheduled to begin in 2018 on new clinical space for the Yale Child Study Center. Planning took place throughout 2017 for the consolidation and relocation of the Center’s clinical services to 350 George St. in New Haven.

Following are descriptions of some of the major facilities projects of the past year.

**UROLOGY AND PELVIC MEDICINE**

The new Urology and Pelvic Medicine center on the third floor of the Yale Physicians Building is designed to make patient care as comfortable and efficient as possible. Twenty spacious exam/procedure rooms allow patients to have consultations, examinations, and procedures all in the same room, so they do not have to go back and forth to different locations within the center.

One of the rooms is dedicated to fusion-guided biopsy, a major advancement in prostate cancer detection and diagnosis. This cutting-edge technology integrates data from a multi-parametric MRI and an ultrasound, and fuses the two images. The result is a detailed,
3D image that is vastly superior to images from ultrasound alone. Two other rooms are dedicated to urodynamics.

One of the significant benefits of the new center is that it is multi-disciplinary, allowing physicians to consult and collaborate across disciplines. The center brings together departments and programs in urology; female pelvic medicine and reconstructive surgery (female urology/urogynecology); pelvic floor program with colorectal surgery; and the living kidney donor program.

**NEW DERMATOLOGY CENTER IN BRANFORD**

Yale Medicine Dermatology opened a new facility this year at 322 E. Main St. in Branford, providing general and specialty dermatology services for adults and children.

Previously located on South Main Street in Branford, the office has expanded both its space and the kind of care it provides. Seven dermatologists are at the ready to address general skin concerns, and a dermatologic surgeon is available to remove skin cancers using a precise technique called Mohs micrographic surgery.

Mohs is a highly specialized and delicate procedure performed right in the Branford office under local anesthesia. Sean Christensen, MD, the practice’s dermatologic surgeon, removes only what’s necessary, layer by layer, to speed healing and minimize scarring. He checks each section under a microscope for any remaining skin cancer in an on-site laboratory, while the patient waits in the office. The procedure greatly increases the accuracy and success of skin cancer removal.

The opening of the new and larger location in Branford coincides with the 30th anniversary of Yale Medicine’s Dermatologic Surgery Program in New Haven, which was developed by nationally recognized Mohs surgeon David J. Leffell, MD, chief and founder of the program.

**YALE PHYSICIANS BUILDING**

The lobby of the Yale Physicians Building (YPB) on Howard Avenue underwent a dramatic makeover this year, creating a warm and welcoming new space. The reception desk was removed and replaced by two large digital directories to assist patients with locating departments and providers in the building. New carpeting, furniture and greenery also were included in the project to provide more seating options and more pleasant aesthetics for patients and visitors. In addition, greenery was updated throughout the building, and a plan is underway to install new artwork in the public spaces at YPB within the next six months.

**YALE CHILD STUDY CENTER**

Planning took place throughout 2017 for the consolidation and relocation of the Yale Child Study Center’s clinical services to 350 George St. Construction is scheduled to begin this year. The project will significantly improve the patient experience and integrate programs that are now scattered over multiple sites.

Currently, the Child Study Center provides clinical services for children and adolescents and their families in facilities located on Temple Street, South Frontage Road, and York Street. The existing clinical spaces are not patient-centered, and accessing care is confusing and challenging for families due to the segregation of services. Consolidating the clinics to newly renovated space at 350 George St. will:

- Significantly improve the patient experience and access for families
- Promote center-wide collaboration and innovation
- Accommodate program growth
- Create improved relationships with referring providers, many of whom currently find the Center’s clinical services to be too diffuse and difficult to access.

For more information, please contact Chief Administrative Officer Fred Borrelli at frederick.borrelli@yale.edu.
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