Heart disease affects one in three Americans, and is the number one killer in the country – claiming more lives than all types of cancer combined.

Now the UCSF Division of Cardiology is harnessing the power of smartphones, mobile health apps and other technology to learn more about what causes heart disease, and to develop better strategies to prevent and treat it. The Health eHeart Study is an ambitious initiative, which will gather “big data” from up to 1 million participants worldwide.

The study’s team of physicians and researchers, led by co-principal investigators Jeffrey Olgin, MD, chief of the Division of Cardiology, Mark Pletcher, MD, MPH, a cardiovascular epidemiologist, and Gregory Marcus, MD, the director of clinical research for the Division of Cardiology, will analyze this wealth of information. Their ultimate goal is to reduce deaths from heart disease.

Olgin sees the Health eHeart Study as a “Framingham 2.0” – a modern take on the Framingham Heart Study, the landmark investigation that began in 1948 and recruited more than 5,000 adults in Framingham, Massachusetts to identify the common factors that contribute to cardiovascular disease.
Clinical Care: The Heart of Our Work

Providing excellent clinical care is the foundation for everything that we do in the Department of Medicine, and supports our other interrelated missions of research, education and policy. Our clinicians treat thousands of patients with common conditions, and also see many patients with rare diseases that doctors in community settings may see only a few times in their careers. Our physicians are deeply grounded in real-world experience, and see many intriguing variations of disease that lie at the margins of medical knowledge. By applying their intense intellectual curiosity to the questions they confront in their daily care of patients, these clinicians are discovering the origins of disease, and how we can better treat these conditions.

In this issue of *Frontiers of Medicine*, we proudly profile this year’s Master Clinicians, some of the incredible physicians we are fortunate to have as members of our Department. While they each have distinct styles, they all share a love of caring for patients, a commitment to continual self-improvement, and a passion for advancing their respective fields. This year’s Master Clinicians all happen to be alumni of our residency program, and are now mentoring and inspiring the next generation of physicians. You can also hear audio interviews of these Master Clinicians on our website at medicine.ucsf.edu.

The Health eHeart Study, described in our cover story, is led by a team of clinician-researchers who wanted to discover more about the diseases affecting their patients. The study brings together the extensive clinical experience of our physicians with mobile health apps developed by innovative start-ups – a partnership that we hope will break new ground in the prevention and treatment of heart disease.

In addition to serving as the kinds of physicians that we would all want for our families and ourselves, the Department of Medicine’s clinical alumni and faculty bring their expertise in medicine to their leadership roles in research, education and policy. As part of our strategic planning efforts, the Department of Medicine is striving to provide our outstanding clinicians with the support and tools they need to do their best work. We are deeply grateful for your generous help in these efforts. Thank you so much.

Sincerely,

Talmadge E. King, Jr., MD
Chair, Department of Medicine
Julius R. Krevans Distinguished Professorship in Internal Medicine
Bringing Pilot Programs to Scale

Eric P. Goosby, MD, had spent his entire career caring for people with HIV/AIDS – from treating patients at San Francisco General Hospital (SFGH) in the epidemic’s early days, to establishing HIV/AIDS delivery systems across the country. But he was stunned by what he saw in a Zambian hospital about 15 years ago.

Sixty patients, all dying of AIDS, were crammed into an open ward. “There were three people in each bed, two on the floor underneath the bed,” recalls Goosby. “Ten people suddenly had grand mal seizures at the same time. I had never seen anything like that. That’s when I flipped into an international focus.”

Goosby served as CEO and chief medical officer of Pangaea Global AIDS Foundation from 2001 to 2009, when President Obama nominated him to become Ambassador-at-Large and United States Global AIDS Coordinator. In his role, Goosby oversees implementation of the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), as well as the U.S. government’s engagement with the Global Fund to Fight AIDS, Tuberculosis and Malaria – coordinating nearly $6.5 billion annually in HIV/AIDS efforts.

These two programs, established about a decade ago, have helped turn the tide of the disease worldwide. Organizations like Pangaea had piloted programs demonstrating that HIV could be treated effectively in resource-poor settings. PEPFAR and the Global Fund brought those success stories to scale, creating thousands of clinics in sub-Saharan Africa. “Instead of two clinics in Rwanda, we do 170 clinics and 40 hospitals,” says Goosby. “It may not be perfectly convenient, but people can walk to a facility that can diagnose HIV and initiate treatment – not just in big cities, but also in the rural setting.”

PEPFAR has tested more than 46 million people for HIV, put more than 5 million on antiretroviral therapy, cared for 5 million orphans and vulnerable children, and in 2012 alone prevented 230,000 babies from contracting HIV from their mothers. PEPFAR is now broadening the clinics’ focus to also prevent other diseases, such as hypertension and diabetes, and is supporting an initiative to train more health care workers.

“Eric has done truly amazing things since his training here at UCSF,” says Paul Volberding, MD, director of the AIDS Research Institute at UCSF. “As the PEPFAR director and ambassador he has expanded care to millions, helped lead an education initiative in Africa and supported implementation research within PEPFAR to allow even more people lifesaving access to care.”

‘Intellectual Honesty’

Goosby appreciates the many role models he had as a UCSF medical student and resident. “There was a cultural expectation that you honestly admit your shortcomings around knowledge, and that you seek and get help to understand it better,” he says. “That holds the integrity of the profession together, when you’re out in Zambia with absolutely nobody looking over your shoulder. … I think UCSF has been one of the best at instilling that self-policing, intellectually honest approach to patient care.”

He was also among the first graduates of UCSF’s general internal medicine residency program, and says that learning a broad spectrum of skills – such as dermatology and simple surgical procedures – has been invaluable for practicing medicine in countries with virtually no specialists.

In 1987, Goosby became the associate medical director of the SFGH AIDS clinic, eventually caring for 500 patients who died of the disease. Although his team pioneered many of SFGH’s groundbreaking discoveries, including the development of antiretroviral treatments, the devastating losses took a toll. “I was aware of a post-traumatic stress phenomenon that all of us were feeling,” he says.

In 1991, he became the first medical director of the Ryan White CARE Act, bringing the “San Francisco model” of HIV care – medical treatment plus wraparound services to address other issues such as mental illness, addiction and housing needs – to 18 cities.

During the Clinton Administration, Goosby helped establish the National AIDS Policy Office in the White House, and oversaw the development of antiretroviral guidelines that continue to be used worldwide.

“I wanted to not read or write about public health – I wanted to do it,” says Goosby. “Very early in my career, I saw that my talent was in creating something. I found much more joy in the start-up – engaging problems that historically have been felt to be not solvable, with a scaled response. We’ve shown, at every stage, that you can take care of a bad disease that is uniformly fatal, and do it better.”

Goosby is married to Nancy Truelove; together they have two grown children, Eric and Zoe.
Continued from front page

With the Framingham Heart Study, we got most of the low-hanging fruit, learning that smoking, high cholesterol and a family history of heart disease are bad, and exercise is good,” says Olgin. “Yet we all know people who have horrible family histories but never developed heart disease, as well as people who are diligent about exercise and diet, but who have a heart attack. We hope the Health eHeart Study will allow us to refine our current, very crude estimates of developing heart disease into a better way to predict the occurrence and progression of heart disease that is much more individualized.”

The study has already generated buzz in the mobile health app world, and received recent coverage in the Wall Street Journal, San Francisco Chronicle and the popular BBC television series, Horizon. It also enrolled more than 1,000 people in the first five days, and by press time had enrolled 4,000 adults ranging in age from their 20s to their 80s. Participants hail from all 50 states, and from every continent except Antarctica.

“We’re relying on people’s altruism to contribute really meaningful data that will help a lot of people for many years to come,” says Marcus. “The power of this study will be realized only if we have a huge number of people who participate.”

Big Questions, Big Data

Participants complete online questionnaires with basic demographic information, personal and family medical history, and information about lifestyle habits such as exercise, sleep, smoking history and alcohol consumption. The questionnaires take about an hour, but can be filled out in segments at the participants’ convenience.

Participants can also choose to share additional data, using some of the latest technology. The Health eHeart Study team is developing apps that allow participants to collect information using their own devices, such as smartphones, web-enabled scales, blood pressure machines, glucose monitors and physical activity monitors. The study team has partnered with several mobile health startup companies to create even more tools. These include:

- **EKGs**: AliveCor (www.alivecor.com) makes a device that snaps onto a smartphone and records an electrocardiogram (ECG or EKG) when the user touches his or her fingertips to the electrodes. The smartphone then automatically uploads the EKG to the participant’s record in the study database.

- **Heart rate**: The team has partnered with Azumio (www.azumio.com) to develop smartphone apps that measure heart rate and sleep. To measure heart rate, the participant holds his or her finger over the smartphone camera, which sees the pulse and uploads that information to the database.

- **Blood pressure**: A wireless blood pressure cuff that is connected via Bluetooth allows participants to easily measure and upload their blood pressure.

TO LEARN MORE about the Health eHeart Study or to sign up, please visit www.health-eheartstudy.org. To find out how you can support the next phase of the Health eHeart Study, please contact Director of Development Eileen Murphy at (415) 502-0746 or emurphy@support.ucsf.edu.
Disposable sensors: The team is working with companies that are developing small sensors that attach like a Band-Aid to a participant’s chest, and measure breathing rate, heart rate, EKG, physical activity and sleep. As the study advances, selected patients – such as those with heart failure – could be invited to wear these sensors around the clock. When the monitor falls off, participants just replace it with another.

Exercise and fitness tests: Participants can volunteer to wear small devices, such as the Fitbit, which monitors exercise and activity. The six-minute walk test measures how far a patient can walk in six minutes, and has been shown to be highly predictive of heart disease. A nurse usually administers this test, but the study team is developing an app that allows participants to perform this test at home, with their smartphone measuring the distance walked.

Behavior and health: The study is also partnering with Ginger.io, a company that collects and analyzes passive (phone sensor) and active (patient-reported outcome) data from mobile devices to study behavior and health.

Diet: The team is developing an app to measure diet. Participants take a picture of everything they eat, and an image-matching program determines the content of the food.

Body composition: A measurement app uses the smartphone camera to take a panorama of a participant’s body shape, which can predict fat and muscle composition.

Social media and wellness: The team is developing a way for participants to share information about their use of social media sites. They are interested in learning whether indicators such as a high number of connections on these sites corresponds with more social connectedness and better health, or with less exercise and less time spent preparing healthy meals.

Genetics and environment: Many participants may be asked to mail in a DNA sample using saliva test kits (“spit kit”) allowing the Health eHeart Study to measure interactions between genetics and environment – learning more about how “nature” and “nurture” factors impact heart health.

Participants without smartphones can still take part in most aspects of the study, using a web portal accessible from any computer. Also, everyone will be invited to share access to his or her electronic medical records.

Discovering Patterns of Heart Disease
“The Health eHeart Study will allow us to collect very dense data on people, and really model health-related behavior, disease progression and incidence on a very individual level,” says Olgin. “A good analogy is the way that banks follow your spending very precisely to detect credit card fraud. If there is any deviation, you get a phone call saying, ‘Hey, we think your credit card has been stolen.’ And those predictions get smarter over time.”

The Health eHeart Study team hopes to be able to tease out similar patterns and early warning signs indicating that someone has developed heart disease, or that it might be getting worse – before they land in the emergency room. For example, the team hopes to discover what combinations of factors – including sleep, diet, alcohol, stress and other biologic measures – might trigger an episode of atrial fibrillation, an irregular heart rhythm that can lead to stroke. They are also interested in studying whether changes in the number of phone calls and text messages that a person sends could predict if their condition is worsening. By using a technology called geofencing – in which the study investigators could be notified when a participant is in a hospital for an extended period of time – participants could receive a message asking them to provide more details about that hospitalization. “This is extremely valuable data, and is exactly the sort of thing that no other study could collect,” says Marcus. “Ultimately, if this could be translated into clinical practice, that would broadly change the way we predict and prevent exacerbations of certain cardiovascular diseases.” By sorting through the reams of data generated just prior to a participant’s hospitalization, the team might be able to develop ways to predict and intervene when a participant’s heart disease is getting worse. For example, perhaps a heart failure patient who has stopped answering her phone and is sleeping an hour less per night could receive an alert or a phone call to take an extra water pill, possibly averting a hospitalization.

The Health eHeart Study could also provide useful information for relatively healthy patients who may be at risk of developing heart disease later in life. “I’m a general medicine doctor, and one of the dilemmas I face in clinic is what to do with young adults who have high cholesterol,” says Pletcher. “Is it worth taking a medication early in life in order to prevent a heart attack 30 to 40 years later? The answer may be ‘yes’ if the effects are large, and if the patient doesn’t mind taking the medicine for 30 to 40 years. But those are big ‘ifs,’ and we need to figure out better ways of studying those prevention effects.”

Developing Better Treatments
Part of the motivation for the Health eHeart Study is to reduce the cost of doing randomized controlled trials. As researchers learn more about the causes of heart disease, the Health eHeart Study will make it easier to design and test interventions that could help. Currently, it can take several years and considerable expense to enroll enough patients in clinical trials to draw meaningful conclusions. “The thing I’m most excited about with the Health eHeart Study is the ability to launch new studies quickly and easily, and to reduce the marginal cost of doing a research study,” says Pletcher. “It has gotten so expensive and burdensome to do any new patient-related research data collection. We’re building the Health eHeart Study to enable researchers to do sub-studies – enrolling participants into smaller studies where we can do interventions and test whether they work.”

For example, if a researcher wanted to test whether an exercise intervention could prevent heart attacks in people with coronary disease, he or she could look at the number of people with mild to moderate coronary disease who are enrolled in the Health eHeart Study. The study would electronically deliver an invitation to those participants to join the exercise study, explaining its goals, risks, potential benefits and alternatives. Participants could sign the consent form online, then be randomly assigned...
to either the exercise group or a control group with no intervention. Smartphone apps could remind participants to exercise, and could also measure how much and when they are working out. Because participants already provided demographic data and medical history for the Health eHeart Study, they would not need to resubmit that information.

“Having this nimble and efficient infrastructure to conduct clinical research is paradigm-shifting,” says Marcus, noting that the team has already received inquiries from researchers studying other diseases who may eventually want to adapt the Health eHeart Study model to their own investigations.

Pletcher says the team may also develop a “patient-powered research network” to help brainstorm future research ideas. Some study participants have firsthand experience with heart disease, and are attuned to the small, day-to-day changes that may impact their conditions. “As researchers, we have a lot of expertise in physiology and epidemiology, but we can’t imagine all the possible ways we might improve cardiovascular health,” says Pletcher. “Participants have a lot of wisdom to share with us about what research questions might be interesting, and what interventions might lead to better health. Tapping into that wisdom could lead to a lot of great new ideas, and to engagement that’s different than a traditional research study.”

**Privacy and Accuracy**

Because the UCSF Division of Cardiology is part of a medical institution, the data gathered for the Health eHeart Study is covered by strict federal privacy and security rules. By contrast, for-profit companies may be bought or sold, and their data subjected to varying privacy policies.

“The beauty of doing this as a research study is that we are obligated to have incredible security and privacy – the data is treated the same way medical records are treated,” says Olgin. “All of our data is stored within UCSF. Participants sign a consent, and the data has gone through a security overview and is protected and encrypted. By law, we are not allowed to sell the data to anybody.”

What if some participants try to game the system, claiming to exercise more or eat better than they actually do? “That’s always possible, but we have the same problem whether it’s an electronic cohort or not,” says Olgin. “If we are studying 1,000 people, one or two people who do that could mess things up, but when you have 1 million people, that’s just noise.” Also, because participants are submitting data to help find a cure for heart disease rather than to see how they measure up against others, there may be less of a motivation to submit answers that are not truthful. In addition, the study has built in multiple ways of measuring most variables, so researchers can internally validate the data.

**The Right Time and Place**

The UCSF Division of Cardiology is ideally positioned to lead the Health eHeart Study, since it brings together the strengths of a leading research university with the technological innovations of San Francisco and Silicon Valley. “As I talked to a bunch of startup companies and venture capitalists in the mobile health world, it became clear that nobody is doing anything like this,” says Olgin. “It’s the right timing to do this. I think even two years ago, you couldn’t have done it, but now everyone is connected.

“One of the really neat things about this study is that since we will be enrolling people in our own clinic along with everyone else, we have a population where we can validate everything we’re doing,” says Olgin. “It’s very easy for us to have our heart failure patients in clinic take a nurse-administered, gold standard six-minute walk test, and compare their results to the six-minute walk test administered by the smartphone app. We can prove that what we have developed actually works.” Most technology companies do not have a team of heart experts or easy access to large numbers of patients who can help them test the accuracy of new tools.

The UCSF Cardiovascular Care and Prevention Center at Mission Bay, where most clinic appointments are held, is also located in the epicenter of innovation. “Nine out of 10 companies we’ve talked to or are working with have offices in the South of Market neighborhood, just three blocks away,” says Olgin. “There is nothing like sitting down over coffee or at a meeting, face-to-face, to get things going.” As more participants enroll in the study, Olgin hopes to hire data scientists to analyze and learn from the accumulating wealth of data. “I’m really interested in developing new faculty within cardiology who can develop machine-learning algorithms, crunch the data, and figure out how to present that data back to the individual in a new, meaningful way,” says Olgin. “It’s analytics, informatics, interface and visualization – all the stuff that happens at Google and Silicon Valley companies that hasn’t happened in medicine yet. We need that talent, because the Health eHeart Study is opening up a whole new science.”

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**Gift Fuels Rapid Development**

The Health eHeart Study was launched with generous support from a private funder. “This initial seed money has allowed us to rapidly develop an interesting idea into an innovative, robust study that takes advantage of the latest technological tools,” says Jeffrey Olgin, MD, one of the principal investigators of the Health eHeart Study. “This allowed us to progress at warp speed, which is just not possible with traditional sources of grant funding – the funding cycle alone from application to start of project is often one year.

“Philanthropic gifts are essential to laying the groundwork for this kind of out-of-the-box research endeavor,” says Olgin. “This funding has allowed the Health eHeart Study to develop at the pace of a Silicon Valley startup. We are incredibly grateful for what this philanthropic gift has allowed us to accomplish so far, and look forward to partnering with other supporters as we continue working towards our vision of enrolling 1 million participants worldwide.”
We often describe what faculty members do in terms of their clinical care, research and education efforts,” says Niraj Sehgal, MD, MPH, associate chair for quality improvement and patient safety. “But we tend to minimize leadership positions by referring to them as ‘administrative’ roles. These positions provide real opportunities for faculty to lead system change and influence delivery of care, particularly within our respective medical centers.”

Many Department of Medicine faculty occupy key roles within our medical centers to lead this very change. Just a few examples include:

**UcSF Medical Center**
- Josh Adler, MD  
  chief medical officer
- Adrienne Green, MD  
  associate chief medical officer
- Mike Blum, MD  
  chief medical information officer

**San Francisco General Hospital (SFGH)**
- Alice Chen, MD, MPH  
  chief integration officer
- Will Huen, MD  
  associate chief medical officer

**San Francisco Veterans Affairs Medical Center**
- Rina Shah, MD  
  deputy chief of staff
- Ben Davoren, MD, PhD  
  associate chief of staff for medical informatics

In addition, the number of faculty with medical director positions (for example, risk management, informatics, ambulatory care, and quality and safety) is also increasing.

The immense challenges of health care reform require us to create a system that is more integrated, collaborative and interprofessional. Achieving optimal outcomes for our patients now depends less on individuals working autonomously, and more on teams working together to provide cost-effective and patient-centered care. This shift requires skills that are not necessarily emphasized in traditional medical education – such as communicating effectively and managing and developing teams – but they are essential for physicians succeeding in today’s complex health care environment.

“Leading Clinicians and Clinicians Leading,” a recent *New England Journal of Medicine* article, stated that “clinicians want a greater leadership role but feel unprepared or disempowered.” The Department of Medicine is cultivating physician-leaders at all levels. A few examples include:

- **Health Systems & Leadership Track:** As part of the broader UCSF Pathway in Health & Society, our residents can participate in a two-year longitudinal experience that provides knowledge, skills and mentorship to prepare for leadership careers in health systems improvement. Residents complete an intensive group project each year addressing a quality or policy concern. This year, they developed an innovative program at SFGH to improve the care of patients with alcohol dependence. The program is led by Edgar Pierluissi, MD.

- **Department of Medicine Leadership Initiative:** Through the Department’s Strategic Planning process, this program was created to provide division chiefs with a professional development opportunity that includes completion of 360-degree reviews, executive coaching and a workshop series on key leadership topics. Beth Harleman, MD, associate chair for strategic planning and implementation, leads the program team.

- **UCSF Center for the Health Professions:** This center offers a portfolio of leadership development programs for physicians, nurses, pharmacists and other health care professionals. Programs are both grant-funded and developed for particular clients, including Blue Shield, Kaiser, and IPC The Hospitalist Company, Inc.

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Dhaliwal analyzed the parallels between “Car Talk” and physicians in the *Journal of the American Medical Association*, drawing on his own passion for diagnosing disease. He is nationally renowned for his ability to solve difficult clinical cases, often before live audiences. A recent *New York Times* article stated, “To observe him at work is like watching Steven Spielberg tackle a script or Rory McIlroy a golf course.”

“His command of internal medicine is truly breathtaking, his reading of the recent scientific literature is encyclopedic, and his application of it all is Oslerian,” says Lawrence M. Tierney, Jr., MD, associate chief of the medical service at the SFVAMC, referring to Sir William Osler, revered by many as the founder of internal medicine.

How did Dhaliwal get so good? First, he constantly builds his knowledge base. “People are fond of saying, ‘You can look it up on the Internet,’ but we will always instinctively first try to match a patient’s symptoms with the knowledge that is already stored on the hard drive of our brains,” he says. Second: practice, practice, practice. “It’s literally like a musician doing rehearsal, where you’re putting your brain through the paces of problems that come in the ER or the hospital ward,” says Dhaliwal.

Perhaps most importantly, he pushes himself to improve – for example, checking the electronic medical record to follow up on patients he recently treated. “It’s one of the most humbling things – without a doubt, many of them wind up having something else than I thought,” says Dhaliwal. “This may be the key to reaching our maximal diagnostic potential: finding the place where we can still learn something, even from a condition we’ve seen many times. When people study expert performance, the common theme is possessing the ‘beginner’s mind’ and habitually asking the question, ‘What am I doing to get better?’”

A beloved teacher, he also co-chairs the education committee for the Society to Improve Diagnosis in Medicine, and hopes to broaden the “cognitive apprenticeship” model of teaching diagnosis. “Diagnosis is our most important procedure,” he says. “My ultimate goal is for diagnosis, clinical reasoning and cognitive psychology to become a basic science for medical students and residents, just like anatomy or physiology.”

Dhaliwal and his wife, Ritu Patel, MD, a pediatric hospitalist at Kaiser Permanente in Oakland, enjoy biking in Golden Gate Park with their two young sons, Niraj and Tejbir.
 Patients as Teachers

“My basic approach to medicine is to have humility,” says gastroenterologist Jonathan Terdiman, MD. “The best teachers are the patients. If you listen to their stories, common themes start to emerge and lessons can be learned that are not necessarily reported in the scientific literature. At first the lessons are fragmented, so if you’re not really in the game regularly seeing patients, you’re going to miss them.”

Terdiman founded the UCSF Colitis and Crohn’s Disease Center, which treats patients with Inflammatory Bowel Disease (IBD) – a group of often painful and debilitating conditions that occur when the immune system damages the intestine through chronic inflammation. “His expertise in inflammatory bowel disease has no equal in the state of California, and he is widely recognized as one of the country’s leaders in his field,” says UCSF gastroenterologist John P. Cello, MD.

“Over and over, patients would say, ‘I’m on this diet, and this seems to really help me,’” says Terdiman. “You hear it too often for there not to be some kernel of truth in it. A lot of times, the medical community says, ‘It’s a coincidence.’ Now we’re beginning to understand that diet plays a critical role in intestinal inflammation, and serious science is catching up to these patient observations.”

Inspired by these clues, Terdiman and his colleagues are now studying the relationships among diet, inflammation and the microbiome – the complex ecosystem of bacteria living in the intestine and other parts of the body. They are also starting clinical trials of microbial reconstitution therapy, in which bacteria from a healthy donor’s stool is transplanted into the colon of a patient with disease. “What actually gets transferred is an almost colorless, odorless effluent,” says Terdiman. “It’s the essence of stool, which is the bacteria. Those bacteria take up residence and grow, and it changes your intestinal microbiome pretty drastically and quickly, leading to a reduction in inflammation.”

Terdiman also founded and directs the Hereditary Gastrointestinal Cancer Prevention Program, which uses genetic tests to assess risk and prevent patients from developing genetically related forms of gastrointestinal cancer, especially colon cancer. “The key to saving lives in hereditary cancer is that when you identify someone with it, you have to get the message out to the rest of the family,” says Terdiman. Recently, the program launched KinTalk (kintalk.org), a secure, web-based tool which allows families to share important health information – including family trees and results of family members’ genetic testing.

“The thing that I get the most pleasure from is direct patient care,” says Terdiman. “It’s a great honor, that someone is asking you to help them.”

Terdiman is married to Madhulika Varma, chief of the Section of Colorectal Surgery at UCSF. Together they have two young daughters, Mira and Joya.

“Dr. Jonathan Terdiman
Professor of Clinical Medicine and Surgery
Chief, Gastroenterology Service, UCSF Medical Center
Director, Hereditary Gastrointestinal Cancer Prevention Program
Program Director, Gastroenterology Fellowship Training Program

“The best teachers are the patients. If you listen to their stories, common themes start to emerge and lessons can be learned that are not necessarily reported in the scientific literature.”

For more about KinTalk, see “All in the Family: Sharing Information, Saving Lives” on the back page.
To hear them describe their illnesses, and then hopefully be able to reassure them and turn those stories into something that makes sense from a medical perspective, is a privilege.”

Winston cares for inpatients at San Francisco General Hospital (SFGH) four months a year, both as a primary medicine attending and as an infectious diseases consultant. As SFGH’s vice chief of inpatient medical services, she has improved patient care and educational opportunities for trainees. She also serves as SFGH’s hospital epidemiologist, helping reduce hospital-associated infections such as Clostridium difficile.

In addition to her formal duties, residents and faculty stop by Winston’s compact office each day to discuss challenging cases. “As a master clinician, she brings a confident clarity that systematically sorts through complex cases, discarding the chaff to identify and hold on to the kernels that represent the essence of the case,” says Jeffrey Critchfield, MD, chief of the Division of Hospital Medicine at SFGH.

Winston also lectures widely throughout the Bay Area, and greatly enjoys helping trainees learn and apply their own formative experience as a second-year resident, when Henry “Chip” Chambers, MD, then chief of the Division of Infectious Diseases at SFGH, asked her to serve as the infectious diseases point person over the weekend.

“Chip said, ‘Don’t worry, you can call me,’” says Winston, recalling her apprehension. “I paged Chip multiple times – he was incredibly patient and talked me through all the stuff. At the end of the weekend, I felt that the next time I would be able to do it with a little more confidence and grace.”

Chambers became one of her many mentors. “Chip is a minimalist,” says Winston. “One of the wisest things he taught me is, ‘Do no harm.’ He’s definitely pushed me to think about the consequences of our recommendations and potential side effects.” This has become especially important in an era of increasing resistance to antibiotics. “The [antibiotic] pipeline is not as robust as the organisms are creative and resilient, and when you run out of drugs to give a patient, it’s very sobering,” she says.

She is honored to join many of her mentors as a master clinician. “They’re all very caring and invested in the patients, they are collaborative, and they are all extremely intellectually curious,” says Winston. “They want to keep getting better. The most important thing is that it’s a journey.”

Winston is married to Phillip Kennedy, MD, a hospitalist at California Pacific Medical Center. Together they have 12-year-old twin girls, Clara and Allison, and enjoy taking family hiking trips.

Keeping Getting Better

“I love talking to patients,” says Lisa Winston, MD, a hospitalist and infectious diseases specialist. “By investing time in the relationship and building up enough trust, we can get the real story. To hear them describe their illnesses, and then hopefully be able to reassure them and turn those stories into something that makes sense from a medical perspective, is a privilege.”

Winston cares for inpatients at San Francisco General Hospital (SFGH) four months a year, both as a primary medicine attending and as an infectious diseases consultant. As SFGH’s vice chief of inpatient medical services, she has improved patient care and educational opportunities for trainees. She also serves as SFGH’s hospital epidemiologist, helping reduce hospital-associated infections such as Clostridium difficile.

In addition to her formal duties, residents and faculty stop by Winston’s compact office each day to discuss challenging cases. “As a master clinician, she brings a confident clarity that systematically sorts through complex cases, discarding the chaff to identify and hold on to the kernels that represent the essence of the case,” says Jeffrey Critchfield, MD, chief of the Division of Hospital Medicine at SFGH.

Winston also lectures widely throughout the Bay Area, and greatly enjoys helping trainees learn and apply new knowledge. She recalls her own formative experience as a second-year resident, when Henry “Chip” Chambers, MD, then chief of the Division of Infectious Diseases at SFGH, asked her to serve as the infectious diseases point person over the weekend.

“Chip said, ‘Don’t worry, you can call me,’” says Winston, recalling her apprehension. “I paged Chip multiple times – he was incredibly patient and talked me through all the stuff. At the end of the weekend, I felt that the next time I would be able to do it with a little more confidence and grace.”

Chambers became one of her many mentors. “Chip is a minimalist,” says Winston. “One of the wisest things he taught me is, ‘Do no harm.’ He’s definitely pushed me to think about the consequences of our recommendations and potential side effects.” This has become especially important in an era of increasing resistance to antibiotics. “The [antibiotic] pipeline is not as robust as the organisms are creative and resilient, and when you run out of drugs to give a patient, it’s very sobering,” she says.

She is honored to join many of her mentors as a master clinician. “They’re all very caring and invested in the patients, they are collaborative, and they are all extremely intellectually curious,” says Winston. “They want to keep getting better. The most important thing is that it’s a journey.”

Winston is married to Phillip Kennedy, MD, a hospitalist at California Pacific Medical Center. Together they have 12-year-old twin girls, Clara and Allison, and enjoy taking family hiking trips.
null has spearheaded behind-the-scenes efforts to improve care for all primary care patients, including championing the implementation of a new electronic medical record system. “This has been the most disruptive, yet most beneficial transformation that I’ve experienced since starting medicine,” says null. “It’s a tremendous tool for primary care and management of chronic disease. You can tilt the screen towards the patient and graph out their weight, or pull up images to talk about their ear problem. With MyChart, the patient portal, there’s much more interaction with patients in between visits. I can manage someone’s blood pressure through back-and-forth emails. If I had to do everything through phone calls, I couldn’t come close to doing it.”

null loves teaching trainees, and emphasizes the importance of collaborating with patients. “Put the options in front of patients and help them choose, as opposed to dictate what they’re going to do,” advises null. “It’s really a privilege to be allowed to help them with this very important part of their life.”

null lives in the East Bay with his partner, Karen Williams, an artist. He is an enthusiastic volleyball dad to his teenaged daughter, Gemma.

recognitions

eric j. topol, md

eric j. topol, md, an alumnus of the UCSF internal medicine residency program, was the 18th Annual Holly Smith Visiting Professor this spring.

Topol, a cardiologist and geneticist, is director of the Scripps Translational Science Institute, the Gary and Mary West Endowed Chair of Innovative Medicine and a professor of genomics at the Scripps Research Institute. Topol’s research focuses on individualized medicine, using the genome and digital technologies to understand each person at the biologic, physiologic granular level to determine appropriate therapies and prevention. He is a medical innovator in wireless medicine, and cofounder of the west wireless institute.

His work in the genomics of heart attack has led to discovery of key genes recognized by the American Heart Association twice as one of the top 10 research advances. As a leader in clinical trials of novel therapeutics, Topol administered recombinant t-PA to the first patient in 1984, pioneered the clinical development of clopidogrel (Plavix), bivalirudin (Angiomax), and abciximab (ReoPro). He was the first physician to publish safety concerns on the cardiovascular risk of Vioxx. He recently published The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care.
The key to saving lives in hereditary cancer is that when you identify someone with it, you have to get the message out to the rest of the family,” says Jonathan Terdiman, MD, a gastroenterologist who founded the Hereditary Gastrointestinal Cancer Prevention Program. He works with genetic counselors to diagnose and educate families at increased risk of developing colon cancer and other types of cancer. (See his profile on p. 9.)

One of the most common causes of familial gastrointestinal cancer is associated with a condition called Lynch syndrome. Thomas Weisel, an investment banker who has financed technology companies for decades, made a generous donation to help Terdiman and his colleagues launch KinTalk (kintalk.org). This web-based tool allows families to ask UCSF faculty and staff questions about Lynch syndrome, and to share information with each other.

The site also enables people to share family trees, genetic testing results and other valuable information within their extended families – a bit like Facebook, but using a secure network that is accessible only to invited family members. “Instead of missed voicemails and shuffling all this paper, we now have a single area of high-quality, easily accessible data for a family to look at,” says Terdiman.

Drawing on his high-tech background, Weisel advised on how to offer more than just a genetic counseling site to leverage the power of social media. “Although medicine is often notoriously bad at using technology to address problems, this is clearly a great application of technology,” says Weisel. “What’s really neat is that it can be applied to a lot of other areas. Whether it’s a certain type of cancer or some other medical issue, it puts an affinity group – members who share the same issues – in a secure environment, and allows them to talk to each other.”

Indeed, Terdiman has presented the KinTalk model to interested colleagues across UCSF, and has already been approached by other medical institutions that may be interested in licensing the technology.

“There are no research grants or clinical funds to create this kind of patient resource, so philanthropy is essential,” says Terdiman. “As an investment banker in the tech industry, Mr. Weisel understood the power of this tool, and we are incredibly grateful for his generosity.”

To learn more about how you can support the Department of Medicine, please contact Senior Director of Development Olivia Herbert at (415) 476-9878 or oherbert@support.ucsf.edu.