UNIVERSITY OF MIAMI

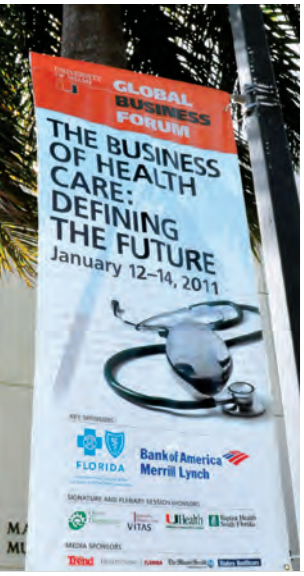
GLOBAL BUSINESS FORUM

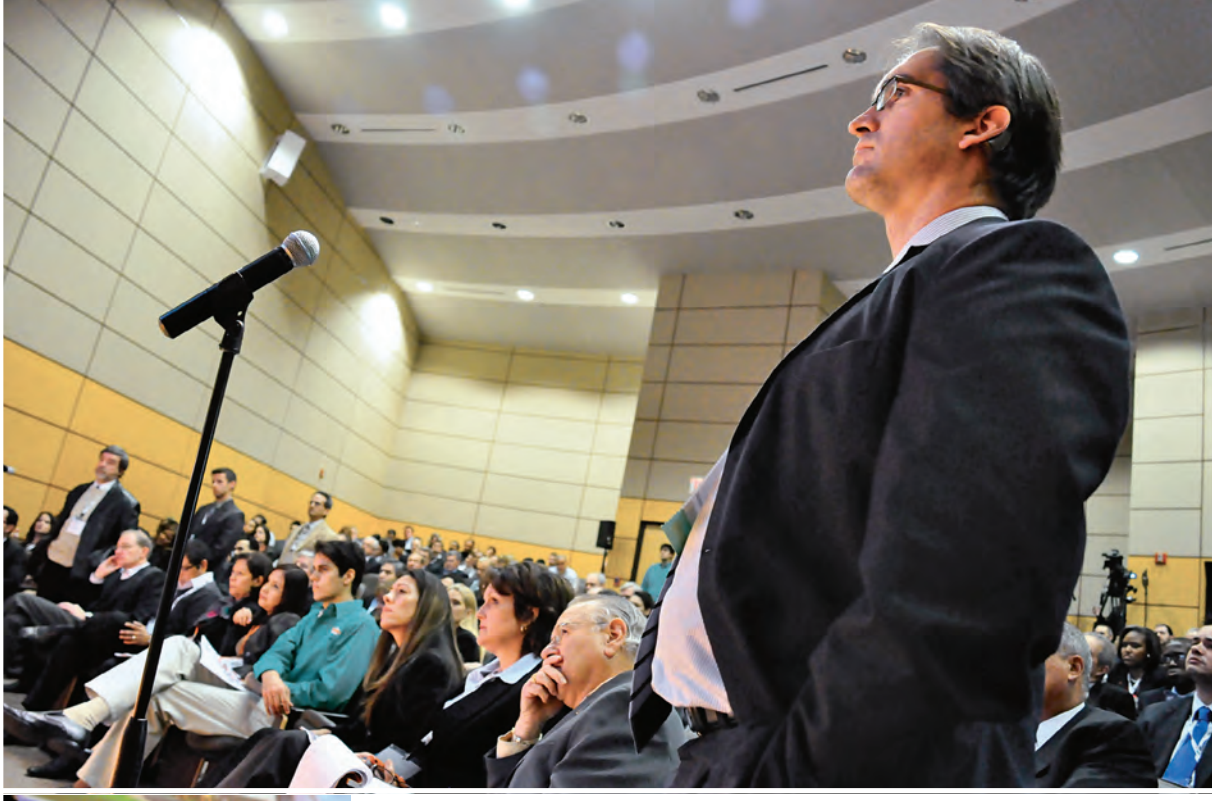
SPECIAL REPORT:

The Business of Health Care:

DEFINING THE FUTURE

2011 GLOBAL BUSINESS FORUM





VIBRANT DEBATE: (clockwise from top) Attendees asked questions during the panel sessions; C-SPAN taped two of the sessions for broadcast; UM President Donna E. Shalala, former U.S. Health and Human Services secretary, was a panelist in several sessions.

Reality Check

The Global Business Forum takes a cross-discipline approach to the business of health care. By Susannah Nesmith

AN UNPRECEDENTED ARRAY of international health care experts descended on the University of Miami Jan. 12–14 for the second Global Business Forum, organized by the School of Business Administration. Altogether, nearly 1,000 people – those who provide care and those who pay for it, as well as researchers, regulators and investors – participated in an intensive debate about the future of health care.

The more than 150 industry thought leaders who served as presenters and panelists for the Forum, "The Business of Health Care: Defining the Future," brought a sense of urgency: costs must be cut, quality must be improved, and the U.S. needs to tackle chronic conditions and prepare for the aging baby boomers who could easily overwhelm the system. The price of doing nothing is too great, for business and the nation as a whole.

Attendees packed venues throughout the University, with many sessions standing room only. In between sessions and at lunches and special cocktail receptions, participants informally discussed the research, ideas and predictions they had heard, while networking with peers who shared their interest in health care's future.

The stakes were clear from the start. Kathleen Sebelius, the U.S. secretary of Health and Human Services, delivered the opening keynote speech, putting the nation's health care challenges in stark business terms: Americans take 45 million avoidable sick days, the equivalent of 180,000 full-time employees being out sick for a year. She called health care reform "a chance to close our

ABREU IMAGES, TOM STEPP, PRIMOLI PHOTO, JORGE R. PEREZ

dramatic health disparities, but also to produce a healthier workforce."

"Despite having the world's best doctors, the finest hospitals, the best technology, we continue to lag behind the rest of the world [in health outcomes]," she said. "We live sicker and die younger than we should."

The consensus was that health care reform is here to stay, in some form or another. "Reform is not going to be repealed," said James Forbes, global principal investments executive for Bank of America Merrill Lynch, during his keynote address. "It's not going to happen, folks. That's the political reality."

The discussions centered largely on the opportunities presented by reform: to improve health, to improve the experience of receiving medical care, to cut costs, to raise quality and to make a profit. For businesses, reform opens the door for innovations that improve the cost and quality of care. For caregivers, it means trying new treatments and even entirely new approaches to keeping people healthy, treating them when they are ill and improving the quality of every stage of their life.

CONVENING DISCUSSION

In 30 panel sessions, two signature panel sessions and five keynote presentations, the Global Business Forum covered a diverse range of topics related to the business of health care. Although the School organized the Forum under the auspices of Academic Director Steven G. Ullmann, director of the School's programs in Health Sector Management and Policy, nearly every UM college and school contributed, as did the Arnold Center for Confluent Studies, The Launch Pad and the Lowe Art Museum.

"All the schools participated, so that we have lots of different perspectives on the subject," said Barbara E. Kahn, who left her post as dean of the School of Business shortly after the Forum, whose creation she had spearheaded. "And a topic like health care needs that kind of approach. It needs the cross-discipline approach."

It is an approach that the School of Business has long taken with its programs in health sector management and policy. It has offered a specialized Executive MBA for more than 30 years, as well as a joint MD/MBA degree and undergraduate major in health care management. Academia, business and health care also come together at the School's Center for Health Sector Management and Policy.

The Forum was an opportunity to share expertise from around the University with an even wider audience. "The Global Business Forum gives us tremendous visibility, not only in the United States but also in the world, as a real thought leader," said Frances Aldrich Sevilla-Sacasa, interim dean of the School of Business.

UM President Donna E. Shalala noted it was the type of gathering that universities do best, adding that the University took a unique role in the health care debate by organizing the Forum, with the support of key sponsors including Blue Cross and Blue Shield of Florida and Bank of America Merrill Lynch.

"We're actually a convener of people to have serious discussions of serious problems. That's what universities ought to do, not simply in the classroom, but using their convening authority to look at the business of health care," Shalala said. "We invited high government officials and high business officials to come and have a dialogue with many health care professionals, as well as our students, our alumni, and people in our community."

The response to those invitations was remarkable, bringing together a range of high-ranking executives, industry analysts, public policy makers, medical practitioners, and faculty and leading researchers from UM as well as other institutions. Top law enforcement officials even joined the discussion during a panel session on reducing health care fraud.

At another session, the heads of several major health care and insurance industry groups debated how health care will be paid for in the future. "This is the first time that anybody can ever remember that you had the head of the American Medical Association, the deputy head of the American Hospital Association, the head of America's Health Insurance Plans, the head of the Healthcare Financial Management Association, sitting down at a table at the same time," Ullmann said.

Attendees and sponsors alike were impressed by both the breadth and depth of the Forum's experts. "It was an eclectic group of people from the industry who all touched, in some way, the business of health care. There are a lot of different perspectives," said David L. Epstein, managing partner of Presidential Capital Partners, a UM Trustee and member of the School of Business Entrepreneurship Programs Advisory Board.

For Brian Keeley, president and CEO of Baptist Health South Florida, one of the event's plenary session sponsors, "the quality and credibility of the faculty and guest speakers were the highlight of this event." Keeley is chairman of the School of Business advisory board for Health Sector Management and Policy programs.

HEALTH CARE IS CENTRAL TO COMPETITIVENESS

While the debate was lively, one thing everybody agreed on was that health care in the United States costs too

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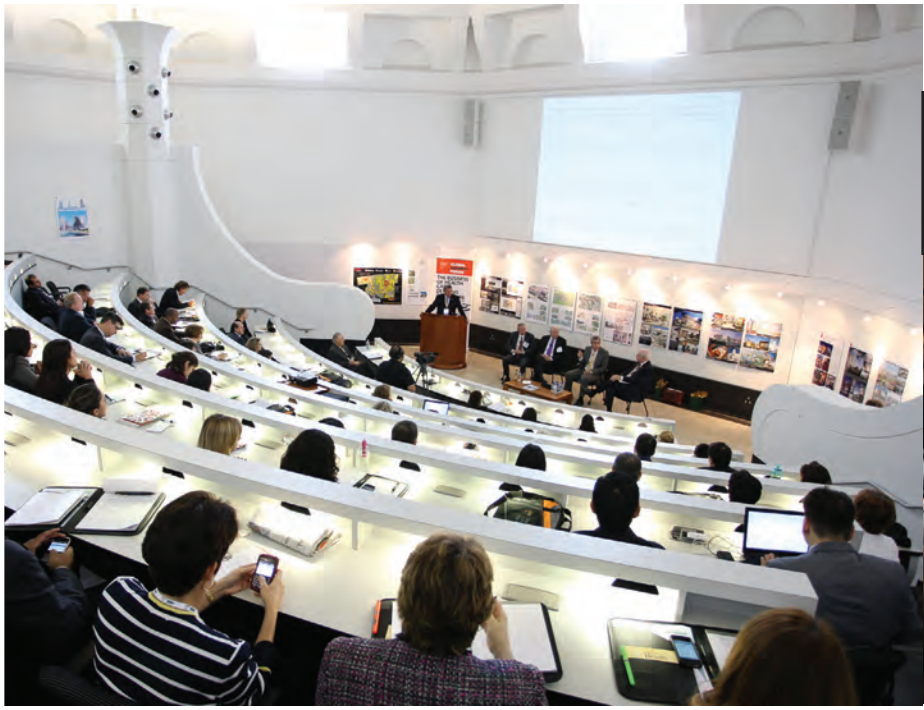


DIGGING DEEPER: Attendees packed venues around the University of Miami to hear distinguished panelists such as Delos Cosgrove (above left), CEO of the Cleveland Clinic Foundation, and Jennie Chin Hansen (opposite page, second from right), CEO of the American Geriatrics Society and AARP past president. Students attended the Forum through the VITAS Scholars program, including a private meeting with VITAS CEO Tim O'Toole (far right).

much. "We're on a trajectory that's going to see us pretty soon devoting one-fifth of our economy to health care, and pretty soon after that, one-quarter," warned panelist Michael Tuffin, vice president of America's Health Insurance Plans, which represents 1,300 health insurance companies.

"That's not all bad," he added. "If we're consuming health care, people are choosing to spend money for life-sustaining and life-enhancing medical care. But we're not getting enough for what we spend, and we're on a path that is not sustainable. Other priorities, like defense and education, are just going to be swamped. There aren't enough dollars to go around."

Several people warned that the country's competitiveness will suffer if it doesn't find ways to at least slow the growth of health care costs. Jeffrey Immelt, CEO and chairman of General Electric, one of the nation's largest companies, shared his own concerns as well as some of the ways that GE is trying to rein in costs. The company spends $3 billion annually on health care for employees and former employees, he said, and runs an $18 billion health care business. He was adamant that unless the U.S. can get a handle on health care costs, hiring will not pick up and unemployment will remain higher than Americans would like.

Immelt believes the recent reform legislation is just the first step in a process that will ultimately remake health care in the U.S. "No matter how old you are, we are going to be working on health care in the U.S. for the rest of our lives," he said. "Big business has the most to lose if we don't get it right."

The experts debated a variety of ways to contain costs, from the radical to the common sense. Several suggested that the health care payment system must be completely upended, because the current fee-for-service model only encourages providers to order unnecessary tests, perform unnecessary operations and spend more time treating problems that could have been prevented; there is simply no incentive in that model to provide preventive care that can help patients avoid costly treatments later. "The savings physicians make by keeping patients out of the hospital actually increases the volume of care they give, and they are penalized for that," said Cecil B. Wilson, president of the American Medical Association.

ATTACKING CHRONIC CONDITIONS

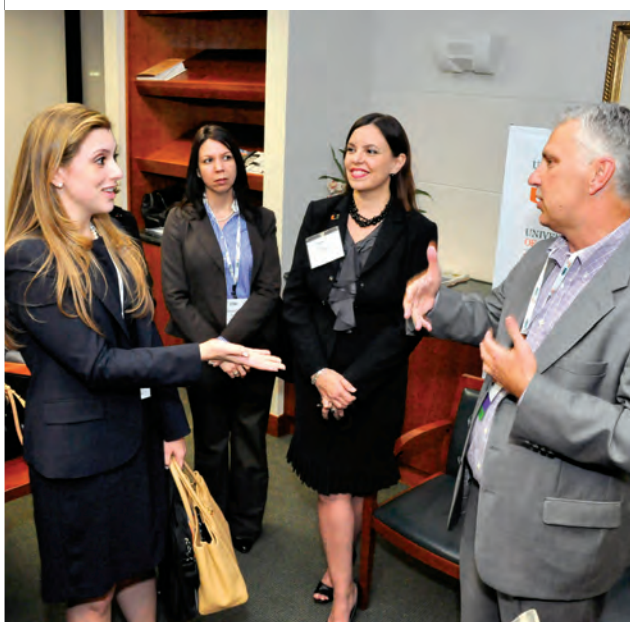
The dual problems of chronic disease and an aging population came up frequently, as participants offered ideas for cutting costs and improving care through prevention initiatives and new delivery methods. Current figures show that approximately 75 percent of health care spending is on chronic disease. Several pointed out that once a person reaches age 65, his or her health care costs rise to two and a half to three times what they were in the previous decade. As the oldest of the more than 74 million baby boomers begin to turn 65 this year, the nation's health care system needs to be ready.

Preventive cardiologist Arthur Agatston, author of *The South Beach Diet*, pointed out that unfortunately, chronic conditions are not solely a problem for the elderly. Agatston, an associate professor of medicine at UM's Miller School of Medicine, spoke with concern about the rising rates of diabetes and heart disease, in particular among younger generations, which threaten to lower life expectancy.

"There's this continuing debate about what health care system to adopt. I can tell you that whether it's a one-payer system, multi-payer system or market system, it doesn't matter," said Agatston in his keynote speech. "It's going to be overwhelmed by chronic disease if we don't make changes, particularly in the younger generation, today."

Education — of physicians, nurses and patients — got attention from

TOM STEPP, PRIMOLI PHOTO, JORGE R. PEREZ, JENNY ABREU



several perspectives. Professors from the Miller School talked about new ways of training medical students, international nursing experts looked at how to fill a looming nursing gap, and educators and activists discussed ways to put children more in touch with healthy food and exercise.

Others approached education from a different perspective: the health care consumer. Several predicted that high-deductible, consumer-driven health plans — which can empower patients to help keep costs down — will be the only option for most people in the near future. Troyen Brennan, a physician and chief medical officer for pharmacy giant CVS Caremark, described several efforts by the company to educate health care consumers, including programs aimed at cutting costly hospital readmissions and prescribing drugs more effectively. But, he acknowledged, none of those efforts will dramatically cut costs. "The costs of health care are big. Providing access to health care to everyone in the United States is big and important," he said. "To cut costs, you've got to do a lot of small things."

THE OPPORTUNITIES

Even as the nation focuses on cutting health care costs, there are opportunities for business, beginning with the Affordable Care Act. "Quite honestly, most … private equity firms view this as a tremendous opportunity," Bank of America Merrill Lynch's Forbes said.

Technology-related ideas got the most attention, especially innovations that aim to improve care and cut costs. From telemedicine to nanotechnology, the potential to build a better and cheaper health care mousetrap is enormous. Researchers are trying to develop art and music therapies as cost-effective treatments for devastating injuries. New joint replacement devices, regenerative technologies to create living tissue to repair organs and gene-based personalized medicine were just a few of the areas that presenters explored.

Some believe the real game changer may be electronic medical records. Thought leaders in health care and information technology talked extensively about the ways in which electronic data have the potential to save lives and money. "If you have a solution, such as information technology, that can put more information in the hands of doctors [and contain costs], then you will have a successful business," said Michael Mindlin, a health care investment analyst at Stelliam Investment Management. Alan Wheatley, a vice president at Humana, a national provider of insurance plans, believes that electronic medical records "will drive unbelievably improved quality of care and improved decision making."

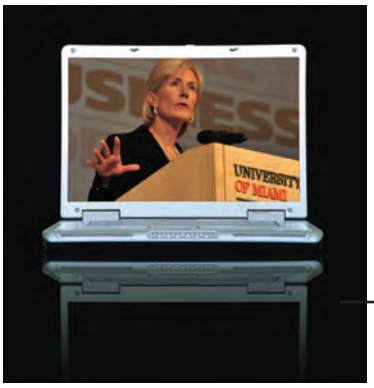
WHERE BUSINESS AND ACADEMIA MEET

For attendees, the diverse nature of topics covered at the Forum was part of the attraction, as was the opportunity to network with others from a variety of fields, to cross-pollinate ideas and explore potential business opportunities. Larry Green (BBA '68) said he has been to university-sponsored forums around the country — many on the topic of health care — but he had never attended one nearly as comprehensive as this one. "I was extremely impressed with the level of panel members from every area," said Green, chief product development officer for the nutraceuticals company PHX Partners. "It was an eye-opening experience."

This was UM's second Global Business Forum, following on its successful 2009 event. Both were organized under Kahn's leadership. Even she was amazed by how much larger the 2011 Forum was. "The level of engagement is much higher," she said. "People are really trying to work together to think of solutions to these problems." ■

Web Highlights

Find much more from the Global Business Forum at the official website: www.UMGlobalForum.com



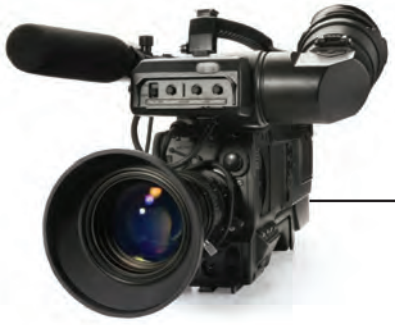
Video of every session

Expanded white papers from each session, with more from each panelist

Presentations and handouts from selected sessions

More information about the keynote speakers

News stories filed during the conference, including "Global Business Forum Ends with Call to Action"



Links to media coverage of the Forum, including the C-SPAN television network's broadcasts of two sessions

Photos from throughout the Forum's three days: keynote and panel sessions, breaks, lunches and networking events

TOP TWEETS

Participants continued the conversations in a variety of online settings at hashtag #GBF2011. See more tweets like these on the Global Business Forum website.

jmathews: FDA Commish did a great job of making me want 2 learn more about 'regulatory science'. New & important subject I learned 2day@**#GBF2011**

staceysinger: UM Biz School Dean Barbara Kahn: debate over #hcr has never been more intense. **#GBF2011**

quiqueTVMC: Great discussion on Health and food risks and regulatory sci improvements with FDA commish to improve safety and speed to mkt **#GBF2011**

agostojuan: "Meaning: Intention, purpose, aim, function, significance, value, worth", the importance of aging well with meaning... **#GBF2011**

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KEYNOTE PRESENTATION

Toward a Better Health Care System

Health care reform will speed up the pace of improvements in promoting wellness and quality care.

HEALTH CARE REFORM is a vital step toward making U.S. businesses more competitive in a global economy, said Kathleen Sebelius, secretary of the U.S. Department of Health and Human Services. "Healthy adults are better workers and healthy children are better students," she told forum attendees during her keynote address.

Americans eat too much, don't exercise enough, continue to smoke and don't always receive quality medical care, Sebelius said. That translates to about 45 million avoidable sick days a year — the equivalent of 180,000 workers calling in sick for an entire year.

"That alone puts the U.S. at a severe disadvantage in global markets," said Sebelius, who called for a new direction in health care, focusing on prevention and wellness. "Employers have spent billions trying to deal with health care. Now, we have a historic opportunity to join together and build a healthier nation."

"In the past two years, Congress has passed more important health care legislation than at any time since Medicare," Sebelius said. "The future looks brighter now than it has in decades." She cited a long list of recent government accomplishments, including expanding health insurance for children, increasing the regulation of tobacco and advancing the use of electronic medical records.

She strongly defended the Patient Protection and Affordable Care Act of 2010, which the House of Representatives voted in January to repeal. "People across the country are starting to connect directly with the benefits of health care reform," she said. "The members of Congress need to have a conversation with their constituents and ask themselves, 'What is the alternative?'"

She said the legislation incorporates fresh ideas and best practices from around the country in order to improve the quality of care and lower costs. "We know a better health care system is possible because it already exists, although it is scattered in pockets across the country," said Sebelius, using as examples a hospital in Michigan that is saving lives by using a patient safety checklist developed by Johns Hopkins University, school districts that are serving healthier lunches and employers that are establishing on-site clinics.

For too long, the federal government has lagged the private sector in promoting wellness and quality care, Sebelius continued. But when government puts its support behind improvements, the pace can speed up dramatically. She noted that the Affordable Care Act increases worker rewards for participating in wellness programs and meeting health benchmarks. It also gives employers an extra incentive to invest in a healthy workforce.

In addition, the federal government is examining changes in financial incentives to encourage providers to keep patients out of the hospital. "Right now, hospitals benefit from readmissions," she explained, "so we are looking at strategies like bundled care payments to reward hospitals. In Denver, that approach reduced readmissions by 30 percent."

Another cost-reduction strategy is the medical home model, where patients receive care from a team of doctors, nurses and community health workers. "This is particularly effective for managing chronic conditions," Sebelius noted.

She added that electronic medical records — an imperative in the recent legislation — can help improve patient care. "Going to an EMR doesn't just shift those records from paper onto a computer — it also helps coordinate best practices," she said. For example, a Cincinnati hospital used EMRs to reduce medical errors and improve clinical efficiency, and as a result went more than 1,000 days without a serious safety incident in its neonatal ward.

Finally, Sebelius emphasized the need for public-private partnerships throughout the health care sector. "Employers have spent billions trying to deal with health costs and strategies," she said. "Our willingness to join with them and invest in strategies that work can help make America competitive in the global economy."

—By Richard Westlund

Baptist Health South Florida sponsored the keynote address.

"We know a better health care system is possible because it already exists, although it is scattered in pockets across the country."

KATHLEEN SEBELIUS
Secretary, U.S. Department of Health and Human Services

KEYNOTE PRESENTATION

Tackling the Health Care Cost Monster

GE's Jeffrey Immelt calls for transparency, a focus on prevention and better use of information to control costs.

RISING HEALTH CARE COSTS threaten the country's global competitiveness, said Jeffrey Immelt, chairman and CEO of General Electric Co. The nation's $2.5 trillion health care spending rose by 10 percent in 2010, despite a tough economy with high unemployment.

"Somehow, some way, there's going to have to be something done about [the inflation]," Immelt said. "We are going to be working on health care in the United States for the rest of our lives. The challenge is: How do you do it without destroying it?"

Immelt implored the private and public sectors to work together to preserve U.S. innovation, increase access to health care and cut the health care cost inflation rate in half.

The problem isn't limited to the U.S. Health care, Immelt said, is "the world's biggest systems problem" — and one he sees clearly from two angles. GE is the world's largest health care diagnostic equipment maker, generating $18 billion a year in revenues. And it spends $3 billion annually on health care costs for its 600,000 employees.

He outlined several strategies to control costs without stifling innovation. To begin with, costs must be clearer. "There needs to be broad transparency in the industry so that people can really understand what they are doing. [Health care] is the least transparent industry of any that we deal with," he said.

Consumers must understand these costs, and will play an important role in tackling them, Immelt noted. And businesses should look for ways to "engage consumers to be healthier, more well informed and more accountable" about their health — with a particular emphasis on prevention.

"In the end, prevention is going to be the only thing that can help us really bend the cost curve," Immelt said. He predicted that the future of health insurance will be in high-deductible plans that force consumers to make smart choices about spending.

But changes in insurance structure can only go so far, said Immelt, who called treating chronic disease the "holy grail." In fact, GE spends most of its nearly $2 billion annual medical research and development budget on chronic disease treatments and diagnostics. "All of the areas around marrying diagnostics and therapy to make therapy more effective are extremely important," he explained.

The industry must harness the power of information, Immelt added, saying that information technology is at the core of simultaneously lowering costs while increasing quality and access. He noted that advances in health care IT have so far mainly improved connectivity between various systems and allowed for telemedicine. In fact, about 90 percent of the impact of health care IT has been concentrated in those areas, he said. Yet, he believes those areas account for only about 10 percent of the value that IT can bring to health care.

The bottom line: Unless the U.S. does something about health care costs, it will not see healthy employment figures, Immelt said. The country must promote accountability that drives productivity and gets inflation under control.

He stressed, though, that just making one group more accountable for spending won't be enough. "I think it's a good step. But health care costs in the U.S. are a big blob," he said. "Unless you take the whole blob and reduce it, the cost is just going to shift to other pockets. So we have to work on it as a system in its entirety. … That's going to take public-private partnerships."

—By Jennifer LeClaire

TOM STEPP

JEFFREY R. IMMELT
Chairman and CEO,
General Electric Co.

"In the end, prevention is going to be the only thing that can help us really bend the cost curve."

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KEYNOTE PRESENTATION

The Investment Opportunities in Reform

Like it or hate it, health care reform, as passed in 2010, will bring more patients into the medical system, opening up opportunities for investors.

JAMES D. FORBES
Global Principal Investments Executive, Bank of America Merrill Lynch

The "holy grail" for venture capitalists over the next several years: electronic medical records.

ULTIMATELY, the controversial health care reform legislation passed in 2010 will not be repealed, and the changes are creating a tremendous opportunity for investors, James D. Forbes, global principal investments executive at Bank of America Merrill Lynch, told the Forum.

The Patient Protection and Affordable Care Act will generate at least 36 million new customers for doctors, clinics and other providers, he said. That's the number of people who will have health insurance for the first time under the act.

Half of those new customers will be Medicaid recipients, so Forbes is particularly enthusiastic about companies in the business of Medicaid managed care. He also noted opportunities revolving around the family doctor — which most of the newly insured haven't had. "We need to create primary care physicians, lots of them, in a hurry," he said, adding that companies which come up with new ways of meeting this demand will be good investment candidates.

Then there are the 74 million baby boomers, the first wave of whom turn 65 years old this year. Forbes suggested that many of them already are, or will become, part of the 20 percent of the population that accounts for 80 percent of health care spending. "The more shocking statistic," he noted, "is that 5 percent of the population is responsible for 49 1/2 percent of health care expenditures. These are people that, by and large, have multiple conditions — diabetes, hypertension, heart disease."

Forbes cited studies indicating that because of such chronic illnesses, once people turn 65 they typically consume two and a half to three times more health care than they did at younger ages. So he envisions big growth potential over the next five to 10 years for companies that provide acute care and home care to seniors. He also sees significant room for improvement in managed care. "If I can find the person in this room that has an idea about that, come and see me … because I really think that's the opportunity here going forward," he said.

Another opportunity is what Forbes called the "holy grail" for venture capitalists over the next several years: electronic medical records and the technology required to perfect their use. He noted that federal stimulus dollars have already gone into this area. Additional auspicious investment targets are companies developing medical devices, especially stents, artificial joints and other products typically used by the elderly. He anticipates new opportunities in the pharmaceutical industry as name-brand drugs, such as Lipitor, go generic, and corporate giants consolidate and spin off smaller product lines.

Forbes believes private equity firms have plenty of idle investment capital — about $480 billion — with which to take advantage of these opportunities. Banks and other lenders are sitting on another $800 billion, he said. Auguring a health sector investment surge is the fact that most venture capital firms currently underweight health care, with roughly 15 percent or less of their portfolios in the sector.

If historical trends are any indication, the health care sector seems poised for an infusion. Its growth rate of 4 percent last year was a 50-year low, Forbes noted. He speculated that many insurers had a "cooling effect" on growth by hitting customers with higher deductibles, thus discouraging consumption. For example, about 25 percent of policies now have deductibles of $500 or more, while only 2 percent did in 2000.

Because of these economic conditions, Forbes envisions "a lot of buyout activity over the next few years." "You've seen certain valuations of certain public companies drop dramatically, and that creates opportunities," he said. "So now you can buy companies at a more reasonable price."

—By Kirk Nielsen

PRIMOLI PHOTO

KEYNOTE PRESENTATION

The Pharmacist in the Field

Retail pharmacies and the professionals behind the counter can play a significant role in improving health and lowering costs.

NEW TECHNOLOGIES, old-fashioned personal contact, easily accessible care and cost transparency can make people healthier and reduce health care spending, according to Troyen Brennan, CVS Caremark's executive vice president and chief medical officer.

CVS Caremark is experimenting with a number of ideas that it believes will alleviate both concerns. For starters, as one of the country's largest pharmacy providers, "we want to make sure patients are taking the right medications, and then actually that they are taking the medications," Brennan said.

On the "right medications" front, the company uses genetic testing to identify people who are slow metabolizers of certain drug therapies, such as Plavix, so doctors can adjust the dosage or prescribe an alternative. "There are costs associated with that genetic test and there are costs associated with the doctor's visits," Brennan acknowledged. "But those costs pale in comparison to the costs associated with a catastrophic coronary event."

Of course, making sure a patient gets the right medication doesn't guarantee he will take it. Brennan, a physician who is responsible for the company's MinuteClinic, Accordant Health Care, clinical and medical affairs, and health care strategy, pointed to data showing that up to 70 percent of hospital readmissions stem from patients not taking their prescriptions appropriately.

To change that, CVS Caremark is experimenting with having pharmacists make follow-up phone calls to customers and even visit patients released from hospitals. A recent CVS study found that outreach from a retail pharmacist is about 10 times as effective as a call from a nurse and about 100 times as effective as a follow-up note. Why? People go into learning mode when they talk with a pharmacist. "Pharmacists are a critical part of the health care system," Brennan said. "People who have chronic disease, they feel like they use their pharmacist almost as much as they use their physician."

The company, which has 7,200 retail pharmacy locations in the U.S., is also looking at ways to use its 500 in-store MinuteClinics to educate patients and check on medication compliance. At the MinuteClinics, which are open seven days a week, health care providers see patients without an appointment — usually within 15 minutes. They're designed to diagnose and treat common illnesses, often at a lower cost than an appointment in a doctor's office.

"This is a matter of taking your retail pharmacy and turning it into something that can really help individuals do better with regard to their health care," Brennan said.

The idea of empowering consumers to improve their care dovetails with the corporate movement toward high-deductible, consumer-directed insurance plans. These plans require users to pay the first few thousand dollars of their medical care each year out of pocket, in hopes that they will choose lower-cost medications and service providers.

"The costs of health care are big. Providing access to health care to everybody in the United States is big and important," Brennan said. "So we have to come up with big ideas to be able to maintain the system that's in place and to be able to support the push for greater access. But in order to do those big things, we have to be able to do a lot of small things very well."

—By Jennifer LeClaire

TOM STEPP

TROYEN BRENNAN
Executive Vice President and Chief Medical Officer, CVS Caremark

"Pharmacists are a critical part of the health care system."

2011 GLOBAL BUSINESS FORUM

KEYNOTE PRESENTATION

Prevention Focus Preserves Public Health

The FDA's mission is turning to prevention in areas from food safety to drug recalls to tobacco.

PREVENTION IS A CORE PRINCIPLE of public health, key to facing challenges from food safety to tobacco, Food and Drug Administration Commissioner Margaret Hamburg told the audience in her keynote remarks.

Food safety has been a hot-button topic for the FDA recently, with Hamburg deeming it an "enormous ongoing challenge" for the agency. "Congress is calling on the FDA to put into place a whole new approach to food safety [that is] based on prevention," she explained. "It's much more cost-effective and much more effective in terms of reducing unnecessary illness to try and identify points of vulnerability ahead of time, address them, and prevent problems from happening in the first place."

She called the recently passed Food Safety Modernization Act "historic." It requires food production facilities to have written plans to prevent safety problems and the FDA to establish science-based standards for the safe production and harvesting of produce. The bill also authorizes the FDA to mandate the recall of unsafe food and to inspect foreign and domestic food facilities more frequently.

UM President Donna E. Shalala, a former U.S. Secretary of Health and Human Services, joined Hamburg for the keynote presentation, which took the form of an informal interview of Hamburg by Shalala. She questioned the commissioner on everything from bioterrorism to regulatory science, the discipline that studies the science and tools used to evaluate product safety, efficiency, potency and quality. Hamburg said it is critical to further develop this discipline; doing so could make it easier for researchers to identify, early in their process, which advanced medical therapies might have the best chance of working.

"We need not only to develop the science that underlies the opportunity, but we also have to make sure that we can turn those ideas into viable products that are stable and reproducible and delivered safely," she said. "It saves time, it saves money, and it saves preventable problems in the human clinical studies as well." She pointed out that almost 90 percent of drugs in development never make it to the marketplace.

Shifting gears into on-market drugs, Hamburg noted the FDA's own limited authority for drug recalls. She called for drug companies to have strong systems in place for monitoring and checking quality, and for them to have a transparent relationship with the FDA. To that end, she spoke of a new initiative that will make it easier and clearer for industry to understand FDA expectations and avoid possible legal intervention.

Hamburg, who was at one time the New York City health commissioner and who worked for Shalala at the Department of Health and Human Services, explained that she sees the FDA as far more than a regulatory body. She believes the "much beleaguered, chronically underfunded" agency has a core public health mission.

"At the end of the day we are involved in so many issues that directly impact on public health," said Hamburg, citing tobacco regulation as one example. New legislation gives the FDA more power to regulate tobacco, a prospect that Hamburg said was daunting but that would bring tangible public health benefits. For the first time, the FDA will be allowed to examine tobacco products and their components, in hopes of understanding the underlying science and health risks they may present. One of the first results, she said, was the removal of candy and fruit-flavored "cigarettes" from the market in an attempt to block the recruitment of younger smokers.

The agency will also be introducing new practices in tobacco marketing and advertising, centering on nine different risk-based messages, along with graphic warning labels covering 50 percent of cigarette packaging. "You'll be seeing a real change in tobacco," she said.

—By Andrea Carneiro

"We have to make sure that we can turn those ideas into viable products that are stable and reproducible and delivered safely."

DONNA E. SHALALA
President, University of Miami

MARGARET A. HAMBURG
Commissioner, U.S. Food and Drug Administration

TOM STEPP

KEYNOTE PRESENTATION

Ancient DNA vs. Modern Life

Americans are getting fatter and more are diabetic, negating medical advances that should be prolonging our lives.

AMERICANS between the ages of 30 and 45 have more plaque in their coronary arteries than their elders did when they were in that age range, and more young people are having heart attacks. The reason, according to preventive cardiologist Arthur Agatston, the creator of the South Beach Diet: Modern humans' diet and activity are contrary to the way we evolved.

Autopsy-based studies by researchers at the Mayo Clinic corroborate other findings that show plaque levels in this demographic are indeed going up. "What these data tell us is, despite all our advances in preventing heart disease, our lifestyle is actually trumping those advances," warned Agatston, who is also a professor at UM's Miller School of Medicine. He did note that the incidence of heart disease has generally continued to decline in the United States, after peaking in 1967. But Americans are getting fatter and are more likely to develop diabetes than ever before.

Those 30- to 45-year-olds are the nation's "first fast-food generation" and "video-game generation," Agatston said. "The fact is, you can sit and work and shop and do everything without moving at all." Consequently, a rising tide of overweight, sick people is threatening to engulf the U.S. health care system.

"It may be the first generation that won't live as long as their parents," he added.

Fast food and less movement both contribute to the potbelly. That belly is the result of a "survival mechanism" that kept *Homo sapiens* alive in the wild 20,000 years ago but "is literally killing us today," Agatston explained. Our DNA triggers the storage of fat, especially in the stomach area, which enabled our hunter-gatherer ancestors to survive through annual feast-and-famine cycles.

Belly fat also plays a role in producing chemicals involved in the inflammation process, which normally helps the body fight infections. But our DNA never planned for the belly to keep growing and growing. "Today, where there's no famine, there's only feast, and the belly continues to grow, we're literally bathing our tissues with these inflammatory chemicals," said Agatston, adding that those chemicals are contributing to cardiovascular disease and other chronic illnesses such as macular degeneration, Alzheimer's and cancer.

Belly fat has another disease-causing byproduct: insulin resistance, or pre-diabetes, a condition in which insulin works more slowly after meals to get nutrients into the bloodstream. In the process, blood sugar surges, then dives when the insulin kicks in, resulting in reactive hypoglycemia.

Twentieth-century comforts such as the automobile, refrigeration and longer shelf lives for food have also contributed to an increase in heart disease. Over the past several decades, Americans have been consuming more foods made with artery-clogging tropical oils and trans fats, which keep food tasting good even though it might be several weeks old.

At the same time, Americans have become less active. "A decade or two ago, we were still going out to the sandlot and the fields and playing baseball, football, basketball. Today, most of those sports are being played on video games and computers," Agatston lamented. Unless society changes, the system will be overwhelmed by chronic diseases, he warned.

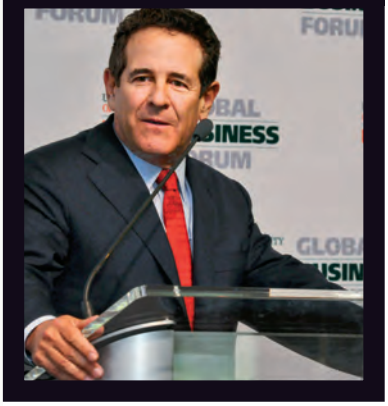
One of the most important places to start, he said, is with children. Agatston offered some hope: the results of a study conducted by the Agatston Research Foundation's Healthier Options for Public Schoolchildren, which worked with elementary schools to make their cafeteria menus healthier. The students gained less weight, had better concentration and improved test scores. "But the most important thing that I learned was these young elementary kids … love healthy food," Agatston said.

And what does healthy food mean — for children and adults? Agatston said medical scientists have reached consensus: "more fruits and vegetables, more high fiber, whole grains, fish, good fat, lean sources of protein."

—By Kirk Nielsen

"Despite all our advances in preventing heart disease, our lifestyle is actually trumping those advances."

ARTHUR AGATSTON
Preventative Cardiologist and Author



TOM STEPP

2011 GLOBAL BUSINESS FORUM

SIGNATURE PANEL Insuring the Future: The Financing of Health Care

Unrealistic Expectations

There are ways to reduce health care costs, but Americans still expect more than they're willing to pay for.

THERE IS NO SINGLE SILVER BULLET that can magically rein in health care costs, according to the top executives of the nation's leading health care industry organizations. There are ways to lower costs, but the bottom line is that many Americans expect more from their health care than they're willing to pay for.

One way to keep costs in check is to change the way providers are paid, emphasizing positive outcomes rather than paying per hospitalization, procedure or doctor visit, said participants. "The reimbursement system is based on volume, not quality," said physician Jon R. Cohen, chief medical officer of Quest Diagnostics. He noted that 25 percent of health care costs pay for paperwork, and 80 percent of health care spending occurs during the last six months of life.

American Medical Association President Cecil B. Wilson noted that a system that pays doctors for the number of times they see a patient without looking at the patient's overall care ends up providing "fragmented care." "The [cost] savings physicians make by keeping patients out of the hospital actually increases the volume of care they give, and they are penalized for that," said Wilson, who is himself a physician.

But he and other panelists said consumers must also change the way they manage their health and use health care services. "Seventy-five percent of the costs of health care is related to chronic disease, lung disease, heart disease, diabetes — pretty much preventable conditions," Wilson said. "Unless we tackle those problems, I would suggest we're doomed to a lack of effectiveness."

Richard J. Umbdenstock, chief executive of the American Hospital Association, agreed that part of the problem lies with consumers, who he said view their health insurance as "prepaid health care."

He also pointed out that many people invest in health care companies, relying on them to be profitable. "How many of us have health care stocks in our 401(k) and count on them for our retirement?" Umbdenstock asked. "We not only want health care reform that protects us … from costs in our retirement. We also want health care to fund our retirement. You can't have it both ways."

Richard L. Clarke (MBA '72) , chief executive of the Healthcare Financial Management Association, worried that the debate has focused too narrowly on cutting provider fees. "If you look at the reform bill … the single largest cost containment or cost reduction is payment cuts," said Clarke, who is a member of the School of Business Programs in Health Sector Management and Policy Advisory Board. "The unintended consequence of making substantial cuts in any part of the system is it shifts over to another part of the system." For example, he suggested that cuts to Medicare payment rates would prompt providers to charge private insurance companies more, something he called "a hidden tax."

Interestingly, just talking about health care reform may cause a temporary slowdown in cost increases, noted UM President Donna E. Shalala, who was Health and Human Services secretary during the Clinton administration. "During the times in our history in which we've debated health care reform, health care costs have actually slowed down," she said.

Shalala also noted that some earlier health care reforms contributed to increased spending. For instance, during her tenure as HHS secretary, the U.S. began allowing drug companies to advertise directly to consumers. Although the Clinton administration claimed such a move would push up costs, then–Sen. Bill Frist — who is a physician — argued at the time that it would not. "Senator Frist told me last month that it was the biggest mistake he made, because it did indeed push costs up," she said.

One way to counteract those types of pressures is to give consumers more information, suggested Michael Tuffin, executive vice president of the industry group America's Health Insurance Plans. "If a patient can log on to the Internet and see there are three medications for people like me and this one is the best, and lo and behold it's the cheapest," that will bring costs down while improving care, he said.

Without that information, too many patients demand the costliest care. "It's hard to escape the conclusion that what people want is unlimited access to care and someone else to pay for it," Tuffin said.

—By Susannah Nesmith

Quest Diagnostics sponsored the session, which was presented by the School of Business Administration.

"Unless we tackle those problems, I would suggest we're doomed to a lack of effectiveness."

PAYMENT PLANS Panelists, clockwise from below, left: Richard L. Clarke, Donna E. Shalala, Cecil B. Wilson, Jon R. Cohen, Michael Tuffin and Richard J. Umbdenstock

SIGNATURE PLENARY PANEL Managing Conflict of Interest: The Patient-Centric View

A Broken Relationship

Innovation will be stifled if physicians cannot work with the **private sector.**

LIFE-SAVING DISCOVERIES in medicine generally don't occur because a company decides to create a new device or drug, says Pascal J. Goldschmidt, dean of the University of Miami Miller School of Medicine. "These innovations occur because great physicians want to do more to help their patients lead full and healthy lives," he said during a signature plenary panel session. "But the relationship between physicians and the commercial sector now is broken. We need to fix it if we want to continue to make progress in medicine."

Clinicians and academics are still trying to figure out the best ways to interact with developers and manufacturers of medical products while protecting patients and managing conflicts of interest. "We do not believe that interactions between physicians and industry should be proscribed," said Goldschmidt, a physician. "If you take the patient-centric view, it's clear that those relationships are important for developing new medicines and devices." He added that UM supports transparency in these relationships, including the creation of a searchable public website that describes university physicians' industry relationships and compensation.

The question of how best to manage provider-industry conflict goes well beyond the traditional physician-patient relationship, noted Richard S. Stack, an interventional cardiologist and managing general partner of medical device developer Synecor. "It has all kinds of implications for innovation in the U.S., and for people with serious medical conditions who may well be blocked from getting life-saving therapy," he said.

So that innovative treatments reach the patients who need them, the industry must make sure that the public understands and trusts that conflicts of interest between physicians and industry are appropriately managed. "We need to restore trust in the collaborative approach, agree on a set of common principles and have incentives aligned in the right way," said William A. Hawkins, CEO of medical device maker Medtronic. "We also need transparency, so people can see how those payments are structured in terms of clinical research, training and education."

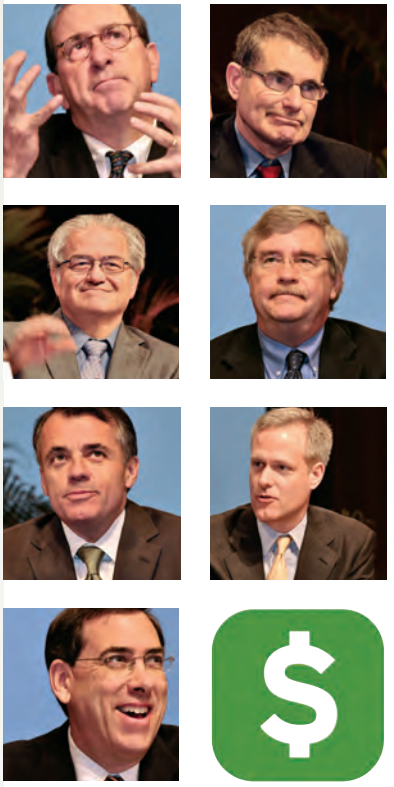
From a different perspective, Thomas P. Stossel, director of the Translational Medicine Division of Brigham and Women's Hospital at Harvard Medical School, cautioned against a tendency toward "administralgia," which he defined as an excessive academic concern over public opinion.

"As a practicing physician, I know that medicine is incomparably better today than when I started my career, because of the tools we have now," Stossel said. But since the 1980s, he continued, more conditions have been applied to academic medical research. "That opened the floodgates for aggressively bashing the medical products industry. … We need to mobilize patients to say we've gone too far."

Medical licensing boards and hospital peer review panels pay close attention to potential conflicts of interest, noted interventional cardiologist William O'Neill, executive dean for clinical affairs at the Miller School of Medicine. "The medical profession is actually doing a good job of policing itself," he said. "It's just that the pendulum of public opinion has swung too far. We have to allay the concerns of the public, and let them know that adequate safety checks are in place so they feel confident about their medical care providers."

—By Richard Westlund

UM Health System sponsored the session, which was presented by the Miller School of Medicine. Peter van der Goes Jr., managing director, healthcare banking at Goldman Sachs, also participated.



INTERACTION: Panelists, clockwise from top left: William A. Hawkins, Thomas P. Stossel, Richard S. Stack, Peter van der Goes Jr., Jon R. Cohen, Pascal J. Goldschmidt and William O'Neill

"We need to mobilize patients to say we've gone too far."

CONFLICT OF INTEREST: WHO SHOULD SEE LAB TEST RESULTS?

Jon R. Cohen, senior vice president and chief medical officer of Quest Diagnostics, focused on a different aspect of managing conflict: whether to send laboratory test results directly to patients. Citing studies that show that 7 percent of abnormal results are never communicated to patients, Cohen said Quest decided to provide patients with test results in 33 states where it is permitted. "We built in a 48-hour delay so the results still go to physicians first, and we continue to send HIV screening results, genetic tests and cancer diagnostics only to physicians," he said. "We believe that empowering patients will … improve the doctor-patient relationship." *—R.W.*

TOM STEPP

Zeroing in on Health Care Fraud

Prevention – not prosecution – is the answer, say the experts.

SOUTH FLORIDA LEADS the nation in health care fraud, and the sheer scope of the problem — $60 billion is lost annually — should worry leaders, said a panel of frontline fraud fighters.

"We're known as the capital of health care fraud. It is embarrassing," said Wifredo Ferrer (AB '87), U.S. attorney for the Southern District of Florida. And criminals take what they learn here to other states. "People are migrating and moving, exporting their fraud knowledge and their schemes," he added.

Ferrer's office began focusing on health care fraud in 2005, looking at billing anomalies. Since then, 1,000 people responsible for $3 billion in fraud have been prosecuted. "And we're not hitting everybody. We only have so many agents and so many prosecutors," he said. "Prosecutors are not the answer. We can prosecute this over and over, and double the numbers, and it's not going to end." Prevention, he concluded, is the key.

Cecilia Franco, Miami field office director of the Centers for Medicare and Medicaid Fraud, gave the audience an idea of the difficulty investigators have dealing with the problem. Every business day, Medicare pays 4.4 million claims totaling $1.1 billion to 1.5 million providers. Approximately 19,000 new providers apply to the program every month. And Medicare and Medicaid are required to process claims within a 15-day window. So they end up doing what's called "pay and chase" — paying first, then looking at anomalies.

"All this money went out to the providers because we had such a small window," Franco said. "Most of the time we don't get it back [when fraud is found]." Her conclusion was that a moratorium on the approval of new providers is the only thing that will enable investigators to get a handle on these frauds.

Providers do need more scrutiny, agreed John V. Gillies, special agent in charge of the Miami Division of the FBI. "It's got to be more difficult to apply to be issued a provider number," he said. He also called for changes from Congress and from Franco's agency, noting that the nation loses an estimated $164 million a day to health care fraud. And he expects the problem to get worse with new requirements for electronic medical records. With security for these records not part of reforms, he expects a spike in identity theft. "We expect, with the rush to get these records up and the security following, we're going to see fraud go up," he noted.

—By Susannah Nesmith

Modern Healthcare *sponsored the session, which was presented by the School of Business Administration and moderated by Brian Keeley, president and CEO of Baptist Health South Florida and a member of the School of Business Programs in Health Sector Management and Policy Advisory Board.*

"People are migrating and moving, exporting their fraud knowledge and their schemes."

[big ideas]

Health care fraud is made easier by the sheer number of billings and providers, and by Medicare's 15-day payment requirement.

Prevention, not prosecution, is the most likely cure.

The first step should be a moratorium on approval of new providers to give prosecutors time to catch up on cases.

Accountability in Action

Patient-centered, outcome-focused care requires new models for providers and payers.

HOSPITALS, PHYSICIANS AND PAYERS must work together to make health care patient-centered and outcome-focused. That will mean developing new models for both providers and payers, panelists said.

One of the most frequently cited provider models is that of the Cleveland Clinic, which *U.S. News & World Report* ranked as one of the nation's top four hospital systems. The organization differs from most, explained Delos M. "Toby" Cosgrove, president and CEO of the Cleveland Clinic Foundation: All employees, including physicians, are salaried; everyone operates under renewable one-year contracts, rather than tenure; and centralized electronic medical records are always available to patients. Patient outcomes are measured to ensure quality care, and operations are organized around disease or organ systems. "The idea was … to have a single leadership and a common location," Cosgrove explained.

The Cleveland Clinic is one model that might be followed to form accountable care organizations, as called for in 2010's health care reform legislation. ACOs are networked groups of physicians and hospitals that accept responsibility for the cost and quality of care delivered to a specific population.

But implementing an ACO is challenging, said Stephen Jones, president and CEO of the Robert Wood Johnson University Hospital system, which has created an ACO in New Jersey. For one, physicians may be reluctant to cooperate, and even if they are willing, there may not be enough primary care physicians to serve the population. There are also technological challenges, including getting everyone on the same platform for sharing medical records. Still, there is demand for this type of care. "There is a strong business case for health care reform: an increase in quality and managing cost," Jones said. "It is our responsibility to businesses to manage down costs."

To do that, however, "ACOs are the tip of the iceberg," said John Bigalke, vice chairman and U.S. national industry leader for health sciences at Deloitte LLP. Payers, including health insurance companies and Medicare, must create systems that cover all aspects of care, from prevention to rehabilitation, he explained. They must also implement a payment model based on long-term, patient-centered care, instead of today's case-by-case model.

Some of the blame for that case-by-case model rests with the government, admitted Anthony Rodgers, deputy administrator for the Centers for Medicare and Medicaid Services. "The system does what it's paid to do, and right now it's paid to initiate transactions, and not coordinate care," he said. "We take that responsibility and are realigning how CMS will operate in the future. … If we're successful, there will be less of a regulatory environment in health care."

The current system has to change, but doing so will require a new level of trust among physicians, hospitals and payers. "The system is broken, whether you're government, physician or patient," Bigalke said. "Try to start the conversation by giving the other party the benefit of the doubt, because they are trying to do the right thing."

—By Brandon Ballenger

[big ideas]

Accountable care organizations are networked provider groups responsible for the cost and quality of care.

Physician reluctance and technical hurdles can stifle the development of ACOs.

Payers need to build models based on long-term care.

"It is our responsibility to businesses to manage down costs."

Squire, Sanders & Dempsey LLP sponsored the session, which was moderated by Partner John M. Kirsner and presented by the School of Business Administration.

Left to Their Own Devices

Faced with skittish investors, the medical device industry struggles to find new strategies for product development.

Commercial success for any medical device starts with a realistic assessment of its viability and requires its developers to have an appetite for navigating an increasingly complex approval process. These were just two of the insights from serial entrepreneurs who have taken multiple startup firms to profitable exits.

"Fundamentally, you are starting with an idea. You are making sure that idea has merit. It can take years to determine if the idea has merit," explained Duke Rohlen, founder and CEO of the medical device company CV Ingenuity. "Concepts and ideas are great, but they evolve over time."

The opportunity is tremendous. Demand for health care services in emerging nations, the need to reduce hospital stays and an aging world population will contribute to a $312 billion global market for medical devices this year, according to Kolarama Information. But challenges abound too. The economics of health care have changed — or have seen proposals for change — and both regulators and investors are scrutinizing the medical device industry.

"The medical devices industry is looked on with a great deal of suspicion by policymakers. Rightly so — there are things that have happened in this industry that we should not be proud of," said Fred Khosravi, managing director of Incept LLC, a health sciences technology company, and founder and chairman of the medical device maker Access Closure. Investors, too, are taking a hard look at device makers. "We are in a transition period," Khosravi said. "Investors don't know how to make money. … You can't calculate ROI. So investors are hesitant about putting money into companies. There's a flight to quality in our innovation ecosystem."

Part of that flight to quality is a focus on companies with multiple products. Stacy Enxing Seng, executive vice president of the endovascular company ev3 Covidien and president of its Worldwide Peripheral Vascular venture, suggested that investors are placing more value on product portfolios than on individual products.

"It's tough for individuals trying to establish companies based on a single technology unless they are quite disruptive," she said. "I still think the best mousetraps win and there is a lot of innovation, but it takes much more to bring it forward."

In October, Rohlen raised a $50 million inaugural fund through his firm, TauTona Group, to address that challenge. "We are trying to create a step in the ecosystem whereby we fund those single products and sell them at a fixed investment," he said. "That reduces the risk."

Christopher Owens, president and CEO of IDEV Technologies, had perhaps the simplest advice for his fellow medical device innovators. "It takes discipline and infrastructure," he told attendees. "If you want to be profitable, you have to have the foundation and the discipline."

—By Jennifer LeClaire

The session was presented by the School of Business Entrepreneurship Programs and moderated by Barry S. Weinstock of Mid-Florida Cardiology Specialists.

"It's tough for individuals trying to establish companies based on a single technology unless they are quite disruptive."

[big ideas]

The medical device industry is in a period of transition, caused by a changing regulatory and economic environment.

Investors are emphasizing product portfolios rather than single products.

The industry needs new approaches to valuing and funding single-technology companies.

Protecting Patients — and Providers

Innovation meets risk in the world of health care technology.

THE WORLD OF HEALTH CARE technology is ripe for innovation. But with new technology comes new security risks, and those risks could cost providers millions of dollars

Chris Davenport, a global security consultant for IBM Global Business Solutions' health care division, warned that though innovations continue to hit the market, they often bring with them unintentionally negative consequences. For instance, secure cloud computing systems, which store data in off-site servers that can be accessed from anywhere, could be hacked or accessed by a disgruntled employee who decides to post confidential information on the Internet.

What's more, penalties are increasing for patient-privacy breeches. In 2009, Congress enacted the Health Information Technology for Economic and Clinical Health Act (HITECH), which levies higher penalties against institutions and professionals that inadvertently lose confidential information. Mark Blatt, a physician who now serves as Intel's director of health care industry solutions, said fines can run up to $1.5 million a year, which can devastate a small medical practice. The legislation also includes criminal sanctions for health care providers that fail to publicize a breach that affects more than 500 people, and allows a state attorney general to pursue civil penalties.

HITECH sanctions can be avoided if providers encrypt their patient records or install anti-theft technology on their computers, Blatt said. He described a service called LoJack for Laptops, which renders a laptop inoperable if it can't find a particular network within 24 hours, and which can inform law enforcement of its location. Blatt said this service has had a 75 percent success rate for recovering stolen laptops, compared to a 3 percent recovery rate for laptops without it.

Gary Bahadur, CEO of KRAA Security, recommended that companies create social media policies to educate health care professionals about the risks of disclosing sensitive information on sites like Facebook or LinkedIn. Still, some experts feel that the benefits of social networking outweigh its risks. Albert Santalo, president and CEO of CareCloud, says the Facebook-like software that his company created is a secure, inexpensive tool that is custom-made for the industry. Thus far, investors have been enthusiastic about CareCloud, enabling it to raise about $8 million in venture capital in less than two years.

Of course, technology innovation isn't always on the wrong side of risk. Bill Taylor, president of Panasonic System Networks, described new facial recognition technology that helps identify established security risks as soon as a security camera detects an individual's image. His company has also developed a system that can broadcast three-dimensional videos and 360-degree sound from operating rooms and disaster areas.

Bal Harbour, Fla.-based plastic surgeon Michael Salzhauer said such technology will enable doctors to supervise operations from miles away. Or, "an older doctor whose hands might not be as steady can supervise from the hallway," he said. "Or watch from a golf course."

—By Erik Bojnansky

The School of Business Administration presented the session, which was moderated by Sara Rushinek, a professor in the School's computer information systems department.

[big ideas]

Health care providers must carefully assess the risks of cloud computing.

Precautionary measures should be enacted to protect patient confidentiality, especially online.

New technology, such as facial recognition software, can help offset security risks.

Innovations often bring with them unintentionally negative consequences.

Opening Doors

As standards change, opportunity abounds for innovators in health care technology.

ENTREPRENEURS scouting prospects in the post–health care reform world should find plenty of opportunities, especially in technology. "If you have a solution, such as information technology, that can put more information in the hands of doctors [and contain costs], then you will have a successful business," said Michael Mindlin, a health care investment analyst at Stelliam Investment Management.

One development that should help open those doors is a new set of federal standards for the secure exchange of health information over the Internet, according to Kevin Hutchinson, an entrepreneurial health care executive who is helping to craft the standards. The rules will allow patients to share test results and medical histories across care providers easily and securely, and will force vendors to share data across their systems. Hutchinson suggested entrepreneurs should be looking at new ways to ensure that interoperability.

As information-gathering systems improve, providers should be able to use the collected data to spot trends in patient care. "The uses of data for good — to drive utility and improvement and patient satisfaction and coordination and care management — are huge opportunities that are undefined right now," Hutchinson said.

Certainly, data-driven care is the future of the pharmaceutical industry, added David McLean, CEO of NovoLogix, a pharmaceutical benefit management company. "If you go back and look at the last 100 years of pharmacy, the first 50 years [were] focused on manufacturing drugs, the next 50 years [were] focused on the distribution of drugs. The focus for the profession for the next 50 years has to be on how we use information to improve patient care and drive more value," he said.

McLean gave the example of a company he recently helped start that has developed what he calls a therapeutic records system. The system helps track the delivery of very high-cost drugs to patients with multiple conditions and medications, and better coordinates their care. With the shortage of primary care physicians, these kinds of tracking systems can help fill gaps, he said.

"The technology can support clinicians in better managing patients, demonstrating those results and … demonstrating value," he explained.

While many of the opportunities for health care entrepreneurs will be in information technology, there are other areas to keep an eye on. In 2014, some Americans will begin buying health insurance through health exchanges, and as that time approaches, health insurance companies will be fighting to keep their customers, according to Anthony Masso, former president and CEO of Consortium Health Plans. They will look for innovative ways to do so. One company is testing a new strategy: sending coupons for healthy foods and activities to customers as a way to foster loyalty. "How do you get the consumer to play a role and give the consumer new information so that he or she can recognize they are getting some benefit from their insurance carrier?" Masso asked. "Opportunities exist all over the place."

—By Marika Lynch

The Launch Pad presented the session, which was moderated by William Scott Green, UM senior vice provost and dean of Undergraduate Education.

"Technology can support clinicians in better managing patients, demonstrating those results and … demonstrating value."

[big ideas]

The biggest opportunities are in solutions that can put more information in doctors' hands and contain costs.

New federal standards will require vendors to share data across systems.

Insurance companies need new ideas to retain customers.

New Rules for Employee Health Care Benefits

Incentives for at-risk employees are one strategy that may help curb costs.

FACED WITH SHARPLY RISING health care costs, U.S. employers are likely to have "leaner and meaner" health insurance plan designs, with larger deductibles and "carrot and stick" incentives to promote wellness, according to Ken Sperling, health care practice leader at the human capital consulting and outsourcing firm Aon Hewitt.

"We will also see employers move away from traditional defined-benefit health care plans, just as we did in the pension area, because of similar financial pressures," Sperling said. "Employees will be more responsible for making health-related decisions."

William Werther, a professor of management at the School of Business, noted that it has become increasingly difficult for companies to provide comprehensive health care benefits and remain competitive in today's global marketplace. "It's important [for businesses] to take a proactive approach when dealing with high costs as well as the impact of health care reform legislation," he said.

The biggest category for health care spending is caring for people with chronic diseases like obesity, diabetes and congestive heart failure, according to Jack Bailey, senior vice president of public and private institutional customers at GlaxoSmithKline. Companies — and the American public — must understand this. But, he added, "The key question is: How do we manage and navigate chronic diseases to get better quality care, ensure access to care and reduce costs?"

Employers are looking to do that by working to change their employees' unhealthy behaviors, though their methods vary. "In some cases a $50 gift card or a $50-a-month reduction in premiums can serve as a reward," Sperling said. "In other cases, you might need to penalize unhealthy actions in order to change employees' behaviors."

Different strategies may be needed for different populations. Sperling cited a Las Vegas casino's successful weight management program for its dealers. "No one wanted to get on the scale individually," he said. "So the supervisors formed teams of five people and weighed them together on a truck scale in the loading dock. The dealers looked at it as a competition. They had a lot of fun with the contest and literally lost tons of weight."

[big ideas]

The major driver in health care spending is chronic (and often preventable) diseases.

Both rewards and penalties can change employee health behavior.

But how do you balance an individual's rights with the employer's need to manage benefits costs? "You can set strict limits against smokers in the workplace," Sperling said. "But you can go to jail if you refuse to hire someone because she's pregnant. … There is a gray area in between. Employers may need to weigh an individual's health care costs against the value that person brings to the organization. But you should not let health issues encroach into hiring practices."

Employers need to answer these questions, because whatever its flaws, the employer-based health care system is unlikely to go away. "Our employer-based system is an anachronism dating from World War II's wage and price controls," Bailey said. "But it's now locked in as the predominant mechanism for any company with more than 200 employees. The real question today is how you level the playing field for the individual purchaser."

—By Richard Westlund

The School of Business Administration presented the session.

Whatever its flaws, the employer-based health care system is unlikely to go away.

Designing Better Patient Care

Utilizing new ideas and technology, architects and designers aim to improve care by tackling its delivery locations.

IN THE NEW ERA of health care, a dramatic physical transformation is sweeping through hospital planning. Led by teams of health care administrators, planners, designers and architects, and backed by research, the latest generation of buildings elevates safety and well-being for patients.

Session panelists said that design can be an important reason why physicians, nurses and even patients fall short in the simplest aspects of care, such as hand washing and preventing patient falls. "Historically we have designed hospitals around the staff," said Frank Sacco (AB '70), president and CEO of Memorial Healthcare System and a member of the School of Business Programs in Health Sector Management and Policy Advisory Board. "We forgot to design hospitals around the patients."

In fact, updated hospital designs can improve outcomes. For example, rooms can be built with sinks and soap at the entryway to encourage more frequent hand washing, said Craig Zimring, an environmental psychologist and professor of architecture at the Georgia Institute of Technology. Or consider the move from semi-private rooms to private rooms. Zimring cited research showing that when ICU patients slept alone in their rooms, infections fell by 50 percent, patient stays were 10 percent shorter, and hand washing was more common.

"We know solutions to some of the problems presented here," said Zimring, noting that one in seven Medicare patients is harmed (by such events as medication errors or falls) in U.S. hospitals. "We cannot accept a health care system where this is everyday practice."

The move to private rooms cuts down on another problem: noise. Simple steps can also reduce unnecessary noise, including sealing doors with materials that can be scrubbed and sanitized.

Yet, in many hospitals today, moans of pain and loud conversations adversely affect patients and staff. For instance, noise in on-call rooms diminishes the benefit of rest for medical residents; one study found that residents who slept in on-call rooms across from labor and delivery wards had no benefit at all from their sleep, said David Birnbach, a physician and professor at UM's Miller School of Medicine, and associate dean and director of UM/Jackson Memorial Hospital Center for Patient Safety. The results of these studies must drive design, panelists stressed.

"You'll hear it again and again," Birnbach said. "We need to practice evidence-based design."

Hospital architecture must also incorporate the ever-improving technology that can improve care, said John J. Greisch, president and CEO of medical technology company Hill-Rom. "The question we should be asking is, How can we leverage technology with medical devices to provide more safety and better care?" he said. For example, Greisch noted, hospitals now have access to machines that monitor the compliance of hand-washing policies, and that technology can be built into rooms.

But unless a hospital's culture embraces the practices it preaches, even a design overhaul won't improve patient care, said Tom Tulloch, a corporate vice president of construction at Baptist Health South Florida. "Culture eats strategy's lunch," he said. "Culture makes a big difference in every organization. … We must never lose sight of why we're there: for the patient."

—By Brett Graf

The School of Business Administration and the School of Architecture presented the session.

[big ideas]

Physical design can improve hospital safety and patient outcomes.

ICU patients in private rooms have 50% fewer infections and 10% shorter hospital stays.

"How can we leverage technology with medical devices to provide more safety and better care?"

The Hospital as Town Center

Blending retail and even residential space, urban planners seek to merge health care centers with community centers.

PLANNERS ARE CREATING new health care facilities that serve as walkable town center environments, with shops, hotels and even contemplative spaces. "Town center campuses for hospitals are the future," said Elizabeth Plater-Zyberk, dean of UM's School of Architecture.

Panel moderator Charles C. Bohl, an associate professor and director of the master in real estate development and urbanism program at the School of Architecture, showcased health care facilities planned with an eye on the well-being of the whole community as well as those they serve to heal.

The faith-based Bon Secours Virginia Health System, for instance, transformed a once-overlooked grocery store into a flagship primary care center. Another site, a 130-bed facility, includes a light-filled lobby with a waterfall and chapel, with views to a meditation garden and walking trails. Incorporating hospitality strategies gleaned from The Walt Disney Co. and The Ritz-Carlton Hotels, Bon Secours CEO Peter Bernard, whose organization sponsored the session, described the intent to welcome and comfort patients and visitors, as well as support staff.

"We're trying to design the hospital so that at any particular place within the organization you can have a spiritual experience," he explained.

Macro trends and changes in health care facilities are being driven by those they employ and serve, said Andrew K. Bachrodt, a partner at Kurt Salmon Associates, a global management consulting firm that specializes in retail, consumer products and health care. "Consumers and patients are more health care savvy," he said. "And they're faced with sharing a greater portion of the financial burden. They're going to demand better access, greater convenience and better clinical results."

What's more, hospitals are typically a community's largest employer. "It's time for them to be reinvested in and redeveloped," Bachrodt asserted. "It's important that health care providers think not as an institution but as a community asset."

That is exactly how RAM Real Estate approached its recent work on the Detroit Medical Center, said Chairman Peter Cummings. That project included collaboration with members of the community, including the Detroit Symphony Orchestra, with an eye toward recharging a debilitated neighborhood. "Quality neighborhoods depend on convenience and safety. … There's nothing that substitutes for people living and working there," Cummings said.

Joseph A. Reagan, vice president and regional executive at Wexford Science + Technology LLC, pointed out that medical facilities and research parks are successful thanks to surrounding activities. "The opportunity for collaboration and commercialization is important," Reagan said. "We see an advantage of density to bring people together."

Health centers, hospitals and research parks can do more than bring people together. They can also give them something to do. That's why Plater-Zyberk urges hospitals to participate in urban programming like the weekly roller-skating event at the Detroit Medical Center. "Hospitals are community leaders," she said. "Creating walkable communities that enhance health is an important role for health care systems."

—By Brett Graff

Bon Secours Health System sponsored the session, which was presented by the School of Architecture.

[big ideas]

Hospitals should be mixed-use community centers.

Promoting community and safety advances the health care mission.

Health care facilities must serve not only patients but families, employees and the community as a whole.

"Consumers and patients [are] … going to demand better access, greater convenience and better clinical results."

Looking Back to Build the Future

Architects are inspired by the changes in health care and the people who will use their facilities.

THE HOSPITALS OF TOMORROW are being built today, using evidence-based design that closely follows health care history and the outcomes of earlier plans.

A panel moderated by Elizabeth Plater-Zyberk, dean of the UM School of Architecture, concluded that hospital design is evolving based on the increasingly comprehensive understanding of how to make medicine more efficient. Many architects are using evidence-based design, which offers the kind of proof that comes only with experience and research.

"From a health care designer's perspective, it involves dealing with those principles and fundamental truths that research now supports," said Donovan K. Smith Jr., a senior health care planner with KTH Architects.

Those architectural concepts, including sustainability and collaborative spaces, are a far cry from hospital construction in the mid-20th century. The institutions still standing from that era are left disadvantaged by isolated spaces. "Barriers were built … that we're still living with today," Smith said. The future, he added, is one of open design, with modular partitions that let patients, families and caregivers interact comfortably.

These designs often require a large upfront investment, but Smith asserted that the payoff "is equivalent to the investment."

David M. Schwarz, president of David M. Schwarz Architects, talked about a $30 million project for Cook Children's Medical Center in Fort Worth, Texas, which evolved into a $300 million project. Once complete, occupancy rates rose to 90 percent, from between 40 and 60 percent.

"It's planning from the inside out," Schwarz said. To that end, his team considered the patients the hospital would be serving — children — and implemented features that would accommodate them and their families. For instance, Schwarz learned that "the most distressing thing for a child is seeing all the apparatus," so the designers encased machinery in head walls to hide the devices when they were not in use.

Patients and their families are not the only considerations. Health care professionals are taken into account, and designs focus on making it easier for them to collaborate across disciplines while bringing more transparency to the process, said Jose Gelabert-Navia, a managing director of Perkins & Will and a professor at UM's School of Architecture.

While considering patient and provider needs, hospitals increasingly seek buildings that can attain worldwide recognition. "Clients come to us from different parts of the world wanting us to design buildings that meet international standards," said Gelabert-Navia, whose project for Hospital Universitario San Vicente de Paúl in Colombia should be complete next year. "They were frustrated by having patients come to the U.S. for treatment," instead of being able to provide care in their own countries.

Yet not all design innovation is taking place in the U.S. "A lot of the innovation in planning that's taking place is happening overseas, which is largely less constrained by the insurance and code regulations of the U.S.," Gelabert-Navia said. "We find a more eager and open audience in China, the Middle East and Africa than we do in our own backyard."

—By Brett Graff

The School of Architecture presented the session.

"A lot of the innovation in planning that's taking place is happening overseas."

[big ideas]

Evidence-based design supports hospitals with fewer fixed barriers and more open construction.

Newer designs can be costly to implement, but may pay off with higher occupancy.

Much design innovation is taking place outside the U.S., where hospitals are less bound by rules.

Balancing Risk and Benefit in Medical Devices

As the FDA remains cautious, device manufacturers push for speedier approvals.

IN ITS QUEST to reduce clinical risks to patients, the U.S. Food and Drug Administration may be crippling the drivers of life-saving medical innovation, panelists asserted.

The United States has one of the world's most risk-averse regulatory climates, said William O'Neill, executive dean for clinical affairs at UM's Miller School of Medicine. "As a result, U.S. patients are going out of the country for clinical use of new devices," he said. "Americans take pride in having the most sophisticated medical care on the planet, but that is really at risk right now. Venture capital is drying up, companies are shutting down, and the public is afraid of new devices, even though they might well extend their lives."

Physician Richard S. Stack, managing general partner of medical device maker Synecor, agreed, saying that long product approval periods increase development costs, add uncertainty and make medical products makers less attractive to investors. He suggested the FDA is stifling innovations that could help American patients. "Other countries welcome our advanced technology," he said.

In fact, Stack went on to say that his team has developed a device that they believe could save hundreds of thousands of lives. But, after an investment of $80 million to date, another $150 million would be needed to bring it to the FDA. "Since venture capitalists can't afford that much, we have no choice but to continue the work outside the U.S.," he said. Synecor is working with UM to find ways for people to access new medical device technologies outside the country.

William A. Hawkins, CEO of medical technology company Medtronic, noted that when the FDA took jurisdiction over medical devices in the 1970s, it had two clear goals: to protect public health and to promote innovation. "Now those goals are out of balance," Hawkins alleged, noting that in the past two years the number of approvals for new products has dropped from about 40 a year to 16. "I think we need a stronger, more transparent FDA that works with companies to be sure that devices that go on the market are safe and effective," he said.

O'Neill, who is a physician, called for a robust FDA post-approval surveillance system to detect potential complications, noting that some occur too infrequently to show up until after products are in use.

Jon R. Cohen, senior vice president and chief medical officer of Quest Diagnostics, noted that the FDA's rules for diagnostic tests are designed to assure accuracy and reproducibility, rather than patient safety, so the approval process for them is typically shorter. For example, he said, the FDA rapidly approved a diagnostic test for H1N1 influenza.

Physician Thomas P. Stossel, director of the Translational Medicine Division for Brigham and Women's Hospital at Harvard Medical School, suggested the FDA look at the potential rewards of approving innovative medical devices. "The agony of balancing risk and benefit has not changed," Stossel said. "But it's obvious that the willingness to take some risk on new medical products has paid off for U.S. patients."

Pascal J. Goldschmidt, dean of the Miller School of Medicine, agreed. "Regulatory agencies may seek to limit risks, but the only way to avoid them is to do nothing at all," he said. "We need a strong FDA that realizes there will be unpredictable complications from time to time."

—By Richard Westlund

[big ideas]

FDA approval of medical products has dropped from 40 a year to 16.

Lack of funds and long approval processes are driving work on medical devices outside the U.S.

Some patient risk is an inevitable part of product development.

"We need a strong FDA that realizes there will be unpredictable complications from time to time."

University of Miami Health System sponsored the session, which was presented by the Miller School of Medicine.

Information Leads to Automation

Centralized, computerized data can save lives and improve health – and might turn the insurance industry on its head.

THE MOVE TO ELECTRONIC medical records — digitizing personal medical data and inputting it into a networked system — will improve more than just the bottom line at health care facilities. It will also lead to automation that will help save lives and prevent complications. And it just might turn the insurance industry upside down.

"We are in critical need of modernizing and automating our system," said Maria Currier (MSN '83, JD '88), chair of the national health care and life sciences team at the law firm Holland & Knight. "We are in the information age, and we need to bring health care into the 21st century."

Neal Patterson, chairman and CEO of Cerner, the largest stand-alone provider of health care information technology, said digitizing and properly indexing records will allow the health care industry to become automated within five to 10 years. Automation, in turn, will give doctors and nurses essential data that could save lives and prevent complications. For example, he said, imagine the value of a system that alerts a nurse to a blood-borne infection that could cause a patient to suffer a stroke if there isn't a proper response within six hours.

As a side effect of this automation, Patterson believes, "health insurance companies will be eliminated as they exist today," replaced by "intelligent middle" entities with a greater focus on patient outcomes.

Companies are rushing to provide the tools that could engender such a revolution. Masimo Corp., which makes pulse rate monitors and similar products, is focusing on wireless devices that can take patient data and feed it into an automated system, said Joe Kiani, the company's chairman and CEO. That, he said, will allow doctors to "fill a piece of the puzzle" on a patient's condition.

Unfortunately, gathering that information really can be like putting together a puzzle, with data scattered among different providers. "You can get health care in a mall, in a school, in a church," but right now those services are not connected, noted M. Narendra Kini, president and CEO of Miami Children's Hospital and a specialist in pediatric emergency medicine. Electronic records will make it easier to keep information in one place.

[big ideas]

Digitized records could lead to automated care within a decade.

Multitasking minds can only handle two or three goals at a time.

Clinicians will need software to help them process and use information.

Of course, having lots of information is not the same as understanding and using it. The human psyche is easily overwhelmed with information, cautioned Terry Rajasenan, senior vice president of data processing company ProcessProxy Corp. Multitasking minds can only handle two or three goals, at most. "We are taking on so much and we think we are juggling it all, but we really aren't," he said.

Rajasenan and Kini (who once oversaw IT for GE Medical Systems and is and a member of the School of Business Programs in Health Sector Management and Policy Advisory Board) agreed that software will need to help clinicians deal with all that information by dispensing it in a manner that they can understand. "There is so much data [available now] that our capacity to absorb it is more and more limited," Kini warned.

—By Erik Bojnansky

Holland & Knight sponsored the session, which was presented by the School of Business Administration.

"We are in the information age, and we need to bring health care into the 21st century."

Targeted, Tailored Marketing

Segmenting consumers in a **shifting** health care marketplace.

HEALTH CARE IS MOVING from "pricey, passive and prescriptive" to "personalized, preventative and participatory," and marketers are looking to capitalize on that shift, according to Thomas Finn, head of global health care business for Procter & Gamble.

"Marketers need to determine who they are targeting and tailor their offerings and communications based upon their wants and needs," said Finn, adding that they must keep in mind that the health care shopper — usually the female head of household — is not always the consumer. Segment-specific marketing, P&G has found, leads to increased compliance.

"The health care consumer market is not homogenous," added Paul Keckley, executive director of the Deloitte Center for Health Solutions. Although he agreed that the industry is becoming consumer-driven, Keckley thinks we're years away from truly understanding consumerism in health care. "Industry is not ready to deal with it yet," he said. "The tools to equip consumers to make rational decisions are not readily accessible today." Still, that does open up new doors for companies that can manage consumers in a health care environment.

P&G and Deloitte use two different segmenting models: P&G's concentrates on key attitudes, while Deloitte's focuses on system usage and compliance.

—By Robert S. Benchley

Deloitte LLP sponsored the session, which was presented by the School of Business Administration.

Two Models of Health Care Consumer Market Segmenting

P&G'S MODEL: SEGMENTING BY KEY ATTITUDES

Consumer Segment	% of Market	Key Attitudes
Performance	39%	"Health is achieved through balance and moderation. I want to quickly restore my health so I can keep going."
Natural Living	28%	"Health is my responsibility. I want to support my body's natural systems to maintain and restore my health."
Trusted Guide	20%	"Health is what I aspire to achieve and maintain. I want reassurance I am treating my body right so I do not worry about my health and well-being."
Proactive Regimen	13%	"Health is a gift I work to protect. I want to protect, restore and transform my health and well-being so I can achieve my goals."

DELOITTE'S MODEL: SEGMENTING BY USAGE AND COMPLIANCE

Consumer Segment	% of Market	System Usage	Compliance level
Content & Compliant	29%	Accepts what the doctor recommends; less likely to seek additional information	Most compliant
Sick & Savvy	24%	Takes charge of own care; seeks information and is sensitive to quality	Compliant
Online & Onboard	8%	Leans toward relying on self; seeks information and uses online tools the most	Compliant
Casual & Cautious	28%	Leans toward relying on self; price-sensitive and unprepared financially for future needs	Less compliant
Shop & Save	2%	Leans toward allowing doctor to make decisions; price-sensitive and changes insurance	Less compliant
Out & About	9%	Independent and makes own decisions; interested in alternative approaches and nonconventional settings	Least compliant

"Marketers need to determine who they are targeting and tailor their offerings and communications based upon their wants and needs."

High-Tech House Calls

Technology that bridges gaps in geography can save lives and money.

TELEHEALTH — everything from caregiving via videoconference and remotely controlled tools, to the remote monitoring of health signs and nursing call centers — is gaining momentum as hospitals look for ways to provide more care to more patients at lower costs. Indeed, the U.S. and European market segments for telehealth and home health monitoring are predicted to grow to an estimated $7.7 billion by 2012, according to Data Monitor.

"We see telehealth as catalytic, using technology to bridge gaps of geography in medicine," said Scott Simmons, the University of Miami's director of telehealth. He believes it will de-institutionalize health care, and offered what he called "proof points" — five ways that this is already happening. Telehealth, Simmons said, is redefining the point of care, expanding specialist reach, enabling collaboration between primary and specialty care, improving customer service and using consumer electronics as medical devices. "We can deliver medical care at home, school, the workplace and anywhere through mobile devices," he said.

Those devices include remote-presence robots like one manufactured by InTouch Health. Such a robot allowed Yulun Wang, chairman and CEO, to join the panel discussion at UM from his company's headquarters in Santa Barbara, Calif. The robot is typically used to provide and document care delivered in emergency rooms, critical-care units, patient wards and operating rooms. Wang maneuvered it remotely to see his fellow panelists, and its screen allowed the panelists to see him as well.

"There is a new enabler on the scene that was not there 10 or 20 years ago — ubiquitous bandwidth," Wang said. "Now that we have bandwidth available at reasonable costs, we can think about reshaping and retooling our medical delivery system. Even remote surgery is possible. I don't believe frequent remote surgery is going to happen soon, but places like UM are doing remote surgery mentoring."

Physician Jeffrey S. Augenstein, professor of surgery and director of the UM-JMH Ryder Trauma Center, called computer technology the key to the future of health care, noting its particular applications for trauma care. "Trauma is America's most expensive disease," he explained. "It costs hundreds of billions of dollars a year." Telehealth, he said, can reduce the likelihood of "horrific" mistakes by making patient information more transparent and available for trauma care personnel.

"Trauma quality and costs can be improved by identifying and addressing problems through monitoring, computerized education and evaluation, and computerizing the point of care," Augenstein said. "Like it or not, medicine is changing. We have to use tools like these. We have no choice."

—By Jennifer LeClaire

The panel was sponsored by 3Cinteractive and presented by the School of Business Administration and the Miller School of Medicine. Anne Burdick, professor of dermatology and associate dean for telehealth and clinical outreach at the Miller School, moderated.

"There is a new enabler on the scene that was not there 10 or 20 years ago — ubiquitous bandwidth."

[big ideas]

The market for telehealth in the U.S. and Europe is expected to be worth $7.7 billion by 2012.

Telehealth may de-institutionalize health care.

Mistakes in trauma care could be reduced with more transparent patient information.

A Legal Minefield

As the pace of health care innovation advances, providers must be conscious of a lagging legal system.

BREAKTHROUGHS IN GENETICS, nanotechnology and telemedicine hold the promise of healthier lives and more efficient care. But they also pose a legal minefield, according to a leading law professor.

Attorney Gary Marchant, executive director of the Arizona State University Center for Law, Science and Innovation, said that the law isn't prepared for the current and coming pace of scientific innovation. "It's going to be an extraordinary ride. The law is going to play an increasingly important role in how we employ these new technologies," he told the audience.

Marchant pointed to discoveries in genetic testing that can help doctors pinpoint who will likely benefit from drug treatments — and who might suffer complications. "More than 100,000 people die every year from complications of drugs taken properly. Genetic tests could prevent many of those deaths," he said.

But when are doctors obligated to use those tests? Studies have found that very few do, even at top-ranked facilities like the Mayo Clinic, where a computer program reminds doctors about such tests when they write certain prescriptions. Historically, one of the key tests of legal liability in medical malpractice has been whether a particular practice is the norm for most physicians. Does that still apply today, when the speed of innovation is forcing doctors to evaluate new, potentially life-saving therapies and tests ever faster?

"There's a legal danger in being too slow to adopt and in being too fast to adopt," Marchant said.

For example, consider a doctor's dilemma for when and how to treat breast cancer. "Many women will never develop aggressive cancer and don't need treatment," Marchant explained. "We just don't know which women don't need it and which women do." Eventually, new tests will help to answer this question, but that will likely raise tricky legal issues. The current standard of care is to aggressively treat breast cancer. But, once tests can determine which cancers most likely need treatment, doctors who recommend aggressive treatment without ordering the tests may find themselves in legal jeopardy.

The question of safety looms large when even scientists are unsure about technological advances. The current regulatory structure is slow-moving, and the legal process takes years to reach a decision, Marchant said.

Take the issues raised by genomics. A 1980 U.S. Supreme Court ruling opened the way for patenting genes in their purified form — the ones required for genetic testing (but not the genes in your body). In 2009, the American Civil Liberties Union sued the company that controls a test for a breast cancer gene. Marchant predicts the case will end up in the Supreme Court, and a decision could reverse more than 30 years of legal precedent.

Technology doesn't wait for legal frameworks, Marchant warned. "We're going to be constantly behind if we're regulating last year's technology."

—By Susannah Nesmith

The School of Law presented the session, which was moderated by Mary Coombs, a professor at the School.

[big ideas]

Rapid innovation is forcing doctors to evaluate new therapies and tests faster than ever.

Innovation leads legal frameworks for everything from genetic testing to genomics.

Safety and legality must be weighed against the need to quickly introduce potentially life-saving technologies.

"There's a legal danger in being too slow to adopt and in being too fast to adopt."

The Rhythm of Rehabilitation

Music therapy may hold the key to retraining the human brain.

A TYPE OF MUSIC therapy can help individuals with brain injuries, and is more efficient and cost-effective than traditional physical rehabilitation, according to recent research.

"Music is not the icing on the cake. Music is the cake," said Michael Thaut, one of the leading experts in the field, who holds dual positions as a professor of music and neuroscience at Colorado State University and heads its center for Biomedical Research in Music.

This particular therapy, known as neurologic music therapy, works because the brain processes music not as a form of artistic expression but as a language. By tapping into this capability, music therapy helps reeducate and retrain those with stroke, Parkinson's, traumatic brain injury and other conditions. Thaut noted that research from the past 15 to 20 years "points clearly to the fact that music can speed up and optimize recovery in patients, which is a critical factor in the business of health care and in patient care."

Neurologic music therapy uses 20 standardized exercises that target key aspects of brain function, including information processing, moving, thinking, speech, reasoning and planning. To illustrate the process, Thaut displayed brain scans showing areas lighting up with activity as the patient listened to music. He also showed video of an ataxia patient whose coordination problems greatly improved as he walked to the beat of a metronome.

According to Thaut, the type of music used makes no difference; it is the exercises that matter. "The question of which is better, Bach or Mozart or Stevie Wonder, takes music back into realm of traditional music therapy," he said.

Teresa Lesiuk, an assistant professor of music therapy at UM's Frost School of Music, said she was inspired by Thaut's work to see whether the therapy could help break the cycle of relapse in drug and alcohol addiction. Reports have shown that substance abuse destroys pathways in the brain, leading to damage similar to the type that occurs with injury or disease.

[big ideas]

The brain processes music as a language.

Neurologic music therapy has been shown to optimize recovery from stroke, Parkinson's and other conditions.

Music therapy may be helpful in treating addiction.

"During addiction, there is a loss of signaling between structures in the brain, and what happens is that eventually the ability to reason is lost. Such decision making existed in these individuals before drug addiction, and it has been demonstrated that the use of music stimuli can help," Lesiuk said.

While music clearly has important uses in treating neurologic issues, Thaut did debunk the popular notion that playing music to babies, or indeed to anyone, can improve mathematical prowess. "Listening to music doesn't make you smarter for something else. Listening to music just makes you smarter," he said.

—By Charlotte Libov

The Frost School of Music and the College of Arts and Sciences jointly presented the session, which was moderated by Shannon K. de l'Etoile, program director and associate professor of Music Therapy.

"Music is not the icing on the cake. Music is the cake."

Foreign Affairs

Training and education can help U.S. companies avoid international misconduct.

WHILE IT MAY MAKE good business sense to venture into Latin America and other emerging markets, U.S. companies must tread carefully if they wish operate in places that are awash in corruption.

"In Brazil, 30 million people cross from poverty to the middle class every year. This is a very attractive market and it's growing. But with these opportunities, we also have to face challenges," said Rogerio Ribeiro, president for Latin America and the Caribbean for GlaxoSmithKline, which sponsored the panel discussion.

Corruption is a serious concern. Carlos Alonso, president of renal operations for Baxter Healthcare, said that he's had to rebuild two operations, in Brazil and in Argentina, in the wake of misconduct.

Clivetty Martinez, Johnson & Johnson's vice president of Health Care Compliance and Privacy in Latin America, noted that the issue is complicated by different laws, standards, regulations and cultures throughout the region. Multinational companies are accustomed to complying with the U.S. Foreign Corrupt Practices Act, which holds them responsible for their actions whether they are in the U.S. or abroad. Now, Martinez explained, companies are seeing more anticorruption efforts at the local level, as more laws are being implemented in other countries at every level of government. Employees need to be aware of both international and local requirements.

Companies must ensure that their suppliers and distributors are beyond reproach as well. "In the past, companies may have complied with the FCPA, but when it came to the distributor, there was a 'don't ask, don't tell,' policy," said Alonso, who is a member of the School of Business Programs in Health Sector Management and Policy Advisory Board. "That is not acceptable anymore."

Bidding is another potential quagmire, especially in Latin American countries, where the government typically administers about 80 percent of health care. "It's very important to train your people on bidding," Martinez said. Alonso agreed: "With some interactions, it's absolutely required to bring an attorney with you, so make sure you create a crack legal team that can work side by side with your business team," he said.

Solid compliance education materials, including a mission statement and a comprehensive and detailed manual, can help employees navigate potentially tricky situations. But no one in the company can be considered above the compliance code. "That response [to misconduct] should only be one way: zero, zero, zero tolerance," Alonso said.

Unfortunately, some risks cannot be mitigated, the panelists noted, advising companies to do their research ahead of time and, if they find a country is just too risky, simply to stay away.

Said Alonso: "It all comes back to setting realistic goals, assessing the market, and knowing there may be certain markets you can't compete in because of your standards. You don't want to push your people into danger zones where they feel 'My job is at stake, and this is what I have to do.'"

—By Charlotte Libov

GlaxoSmithKline sponsored the session, which was presented by the School of Business Administration and the Miller School of Medicine. Kenneth Goodman, professor of medicine and philosophy and co-director, ethics programs, moderated the session.

[big ideas]

Anti-corruption laws are becoming more common around the world.

Companies are responsible for their suppliers' and distributors' business practices.

Clear compliance manuals and well-trained employees can mitigate corruption risk.

"Make sure you create a crack legal team that can work side by side with your business team."

Pharma at a Crossroads

Fighting development delays and generic substitutes, the pharmaceutical industry is looking toward new partnerships and global opportunities.

FACED WITH ebbing profits, soaring legal and compliance costs, and a boom in generic drugs, it's not surprising that the nation's pharmaceutical giants have a headache. But with careful planning, strategizing and repositioning, they should survive and prosper, say industry insiders.

Stan Bernard, president of Bernard Associates, a pharmaceutical consulting firm, says these challenges are not unexpected. "We've moved from the growth stage to the mature, or competitive, state," he said.

With the industry now seeing single-digit profits, rather than the soaring bottom lines of the past, many point to generics as a key reason. According to Fred Hassan, a partner at the private equity firm Warburg Pincus and chairman of Bausch + Lomb, the generics industry soared from 50 percent of market volume just six years ago to nearly 85 percent today. Another challenge is an extremely long approval process from a cautious U.S. Food and Drug Administration. "This FDA is not the FDA that it was 11 or 12 years ago, when we led the world in new approvals and it was proud to be an innovation machine," Hassan asserted.

Patients and insurers are demanding change too. "Patients are becoming more involved and demanding preventative medicine," noted Susan O'Connor, marketing director for Pfizer.

But industry leaders still see tremendous opportunities. Aging baby boomers will be an enormous boon to health care. Treatments for conditions affecting the central nervous system, like Alzheimer's disease, represent a huge, unmet need, and regenerative medicine — creating living tissue to repair organs — holds great promise, said Norbert G. Riedel, corporate vice president and chief scientific officer at Baxter International. Personalized medicine, which considers an individual's genetic makeup to determine treatments, is also promising, said Bernard. As an example, he noted that Herceptin is a niche, personalized breast cancer treatment drug, but is still a $6 billion product.

To take greatest advantage of these opportunities, however, companies must think globally, said Adrian Thomas, a worldwide vice president for Johnson & Johnson Pharmaceutical Services. "Any changes in the marketplace flow right through to the others," he said. But emerging markets require careful assessment. For example, even though China is investing a trillion dollars into its health care system, it's going primarily into the low-cost rural market, so "the reality is that health care in China is very limited," he explained.

Companies must also diversify, and many are striking partnerships in order to do so. Bernard pointed to successful examples such as Novartis, which, with its purchase of Alcon, now controls 70 percent of vision care sales.

Still, Bernard warned, competition will be stiff. "People say that the industry has been competing for years. Well, it will be much more intense. We are going from playing a friendly game of golf, where everybody wins and has a good time, to full-contact football."

—By Charlotte Libov

The School of Business Administration presented the session.

[big ideas]

Pharmaceutical industry profits have dropped to single digits.

Generics will soon account for 84% of the pharma market.

The FDA has become extremely cautious in drug approvals.

"This FDA is not the FDA that it was 11 or 12 years ago, when we led the world in new approvals and it was proud to be an innovation machine."

Crossing Borders for the Best Care

Patients increasingly seek better or more affordable care outside their home countries, but legal issues loom.

WITH MEDICAL TOURISM — the practice of seeking health care outside one's home country — on the rise, providers, facilitators, attorneys and insurance companies are racing to understand its legal and medical implications.

Thirty-five countries currently have medical tourism programs, and studies predict the industry will grow by close to 35 percent a year, according to Medical Tourism Association President Renee-Marie Stephano.

Panelists at the session on medical tourism painted a mixed picture of its future, weighing the possibility of huge economic gains against a plethora of legal issues. One of the biggest is that there is little to no legal precedent for any type of litigation related to medical tourism, said attorney Scott Edelstein, a partner with Squire Sanders & Dempsey.

"There's … uncertainty when developing medical tourism programs to ensure that you actually are going to be able to minimize your liability exposure," Edelstein told attendees. He also expressed concern over multiple jurisdictions (with providers, facilitators and patients potentially coming from different countries), varying laws and foreign fears of "litigious Americans." And while many people opt for personal medical insurance to cover their treatments or procedures, Edelstein noted that if a problem arises, any party — from facilitator to referring physician — could end up facing litigation. However, he said, "None of these are legal issues that cannot be overcome."

To be sure, medical tourists are economically attractive. Inbound patients — those seeking treatment in the United States — represent higher-than-average revenues for the industry. That has inspired many major U.S. health systems to market their services around the globe.

When choosing a destination facility, patients care most about the quality of their care, safety standards, access to treatments and privacy, according to Michael A. Stein, corporate vice president in Baptist Health South Florida's International Division. "However, the patient's overall experience is paramount to the sustainability of expanding inbound medical travel," he said. Both he and physician William Ruschhaupt, chairman of Cleveland Clinic's Global Patient Services division, stressed that staff must be trained to recognize the cultural diversity among their patients.

The U.S. faces competition as other countries — notably China and India — invest more in research and development, and noninvasive methods make it easier for other nations to offer treatments that previously required invasive surgery. In addition, Stein said, U.S. medical centers must work to earn inbound patients, and as costs for health care increase, this country becomes less attractive to medical tourists.

—By Andrea Carneiro

The School of Business Administration presented the session.

[big ideas]

Medical tourism is expected to rise by 35% annually.

There is little legal precedent for dealing with the multiple jurisdictions involved in medical tourism.

Foreign patients seeking treatment in the U.S. bring higher-than-average revenues.

The U.S. faces competition as other countries — notably China and India — invest more in research and development.

Building the Bridge

Government must draw on business expertise and leadership to advance global health initiatives.

THE PUBLIC AND PRIVATE sectors must work together to improve global health, for both economic and humanitarian reasons; the public sector simply cannot do it alone. "We face fiscal and budgetary restraints," said University of Miami President Donna E. Shalala. "The question is, will we as a nation have the political will and political capacity to keep our global health commitments? We need to put a heavy emphasis on drawing on assets from the business sector."

Shalala and other panelists discussed the results of a 2010 report from the Center for Strategic and International Studies Commission on Smart Global Health Policy. Shalala is a CSIS commissioner.

The report concludes that the private sector has core competencies that the U.S. government should tap to strengthen the performance of its global health programs. Companies could put to use their expertise in system design, supply chains, workforce training, marketing and information tools.

Such public-private partnerships are a win-win situation, said Rhona Applebaum, vice president and chief scientific and regulatory officer for the Coca-Cola Co. Her company, she said, brings its in-country experience, supply chain expertise and marketing prowess to global health projects including fighting AIDS/HIV in Africa, raising awareness of HIV in Haiti, and working to prevent a variety of diseases in China. "It's not about charity. Charity is not sustainable," Applebaum said. "It's about business models. When you invest in health, it has outcomes and profits beyond dollar signs."

With congressional support for global health projects waning, more private sector companies will have to make commitments like Coke's. Indeed, physician Steven Phillips, medical director of Global Issues and Projects at ExxonMobil Corp., anticipates key challenges to the U.S. commitment to global health over the next 10 years. He does, however, feel that President Obama's plan to spend $63 billion on a comprehensive global strategy is a positive development. It would be an investment that offers a public sector market for private sector goods and services, he said, but "It won't happen unless and until there is a formal partnership that includes more business leaders in planning and execution."

The American public, for one, understands the value of investing U.S. leadership and dollars into global health initiatives, said J. Stephen Morrison, senior vice president and director of the Center for Global Health Policy at the CSIS. "We've seen a remarkable explosion of U.S. leadership in the last decade — bipartisan support and U.S. population support," he said. "Whether it's shallow or reversible is the question."

It's a question that extends to vital defense interests as well, said Lt. Gen. James Peake, a physician and former U.S. Secretary of Veterans Affairs. He pointed out the complex weave of global health and U.S. military deployments. "At any given time we may be deploying our forces to places with endemic diseases," he said. "It's a security issue."

—By Jennifer LeClaire

The School of Communication presented the session.

"Will we as a nation have the political will and political capacity to keep our global health commitments?"

[big ideas]

Private companies must bring their expertise to the global health arena.

Core competencies include in-country experience, supply chain expertise and marketing prowess.

President Obama's $63 billion global health strategy should create a public sector market for private sector goods and services.

Rethinking the Unthinkable

From earthquakes to pandemics, cross-border cooperation can save lives.

A COMBINATION OF QUICK THINKING, preparedness and adaptability is key to working safely and effectively when disaster hits.

The team of doctors and volunteers from the University of Miami who decamped to Haiti last year following the devastating earthquake there had to use all of those skills — and more — as they treated 30,000 patients and performed 1,500 surgeries over five months at a 250-bed tent hospital they set up. Medicine and supplies were hard to come by, and surgeries were done by flashlight during the first few days.

Cross-border cooperation was also critical to saving as many lives as possible during those months, said Rafael E. Campo, a physician and professor at UM's Miller School of Medicine. He recalled one case in which a child arrived at the hospital with a severe jaw fracture. He needed a maxillofacial surgeon, but the UM team didn't include one. Hearing that a Cuban doctor at a nearby hospital had the expertise, a U.S. army helicopter was dispatched to get her. The surgery was a success and the little boy was saved.

Col. Doug Lougee, a physician with the U.S. Southern Command, described a very different rescue effort in Chile after a much stronger earthquake there. Chile asked the U.S. for help transporting supplies, and later for help setting up a field hospital. "What the Chileans said was 'We don't need your medical professionals. We need your hospital,'" he explained. Lougee noted that the U.S. military can be extremely helpful after a natural disaster, but not everyone wants the visible presence of soldiers.

And not every disaster requires the same kind of thinking, or action. William Blumentals (BS '93), global head of epidemiology for virology and transplant at the health care company Hoffman-LaRoche, described a study done on the effectiveness and safety of the Tamiflu treatment for H1N1 virus. It turned out that early concerns about Tamiflu were overblown and the pandemic itself was much less severe than many initially feared, he said. In fact, one of the most effective ways to combat that potential epidemic was simply to know that "It's good to wash your hands," he said.

[big ideas]

Adaptability and cross-border cooperation are key after a disaster.

Have a plan for sustaining your company when there is no business.

Determine your organization's "surge capacity" – how much you can ramp up operations when disaster strikes.

That uncertainty is where preparedness comes into play. Sally Phillips, deputy director of the Health Resilience Division at the Office of Health Affairs, under the U.S. Department of Homeland Security, stressed that everyone, including businesses, should have a plan in place that covers a variety of scenarios, from natural disaster to pandemic. Businesses, she said, need to be aware of their "surge capacity" — that is, how much they can effectively ramp up operations to deal with a disaster without putting people at risk.

"If only 20 percent of your workforce shows up and the CEO is dead or down and the vice president is dead or down, are there redundancies for recovery?" she asked. "What is your plan for sustaining your company if you have a period of time when there is no business?"

—By Susannah Nesmith

The School of Business Administration and the College of Arts and Sciences presented the session.

The U.S. military can be extremely helpful after a natural disaster, but not everyone wants the visible presence of soldiers.

Nurturing the Next Generation of Nurses

Nurses need to play a key role in shaping health care's future, but to do so they require more education and leadership.

CITING A RECENT REPORT that concluded that nurses must be on equal footing with doctors and other health care professionals in determining the future of the U.S. health care system, UM President Donna E. Shalala declared, "The era of having a hierarchical system is over."

The report, "The Future of Nursing: Leading Change, Advancing Health," was published in October following two years of work by a committee chaired by Shalala, a former U.S. Secretary of Health and Human Services, and convened by the Robert Wood Johnson Foundation and the Institute of Medicine.

Among the report's recommendations: Nurses must be allowed to practice to the full extent of their training, including writing prescriptions, but that practice is often constrained by state laws. "Nurses are educated to perform certain roles, but they are not able to do so because of structural barriers," said Rosemary Bryant, president of the Geneva-based International Council of Nursing.

Even as the report argued for a more prominent role for nurses, it noted that they are overworked and in short supply, especially in the U.S. They also require higher levels of education to respond to increasing demands. A four-year degree "has to be the norm in nursing," Shalala said, and education needs to be more accessible to prospective nursing students.

Unfortunately, attracting new nurses is not easy, especially because the profession is often undervalued. Alaf Meleis, dean of the University of Pennsylvania School of Nursing, said part of the reason nurses are taken for granted is that the majority of them are female. "Societies do not pay for caring, and women do most of the caring — and they do it for free," she said.

The work is challenging too. There are few residency programs to transition nurses from school to job, yet, Meleis said, nurses are expected to work at the "highest capacity level" even on the first day. Throughout their careers, nurses are often left without proper guidance to fully utilize their skills, added Linda Burns Bolton, chief nursing officer of Cedars-Sinai Health System in Los Angeles. "We recognize that three million nurses in the United States and across the world are focused on doing good but often lack the leadership to make it happen," she lamented.

Bolton said that nurses are vital to disease prevention and patient wellness, and in hospitals they play a key role in decreasing potentially costly adverse events, such as falls. Meleis suggested that nurses must do a better job of speaking out about their contributions if they want to raise their stature in the medical community.

Despite the challenges, panelists were optimistic about the profession. Bryant said that in spite of recent employment "blips," the increase in chronic diseases creates more need for nurses. And Bolton warned that without input from nurses, health care won't evolve. "Our knowledge, ability and skills will lead the way to an improved health care system."

—By Erik Bojnansky

The School of Nursing and Health Studies presented the session.

"[Nurses'] knowledge, ability and skills will lead the way to an improved health care system."

[big ideas]

The report suggests that nurses be on equal footing with doctors in determining the future of health care.

State laws keep some nurses from practicing to the full extent of their training, including writing prescriptions.

Nurses require more guidance as they transition from school to job.

Integrating Alternatives

Therapies such as acupuncture and homeopathy can bring relief and help lower costs, but more research is needed to overcome industry skepticism.

HEALTH CARE REFORM'S EMPHASIS on cost-efficient, effective therapies that enhance quality of life offers a golden opportunity to take integrative medicine into the mainstream.

"Integrative medicine should not be separate from mainstream health care. In this new paradigm, let's drop the word 'integrative' and call it what it is — health care," said Todd Ambrosia, assistant clinical professor at the University of Miami's School of Nursing and Health Studies.

Integrative health care combines Eastern-based treatments with Western medical care to create a complementary system. According to Ambrosia, it encompasses five domains: biologically based therapies such as homeopathy, which uses minute doses of compounds to obtain therapeutic effects; nutrition; mind-body interventions; manipulative therapies such as chiropractic; and energy therapies such as acupuncture and Reiki. Leading medical institutions including Duke University and the Johns Hopkins University School of Medicine now offer these types of care, noted panelist Maria Lamas Shojaee (AB '84), a UM trustee who is a Reiki master.

These treatments can be of great value when offered to patients suffering from some of the most devastating — and costly — conditions, including cancer, cardiovascular disease, orthopedic issues and chronic pain, Ambrosia said. "When we look at the costs associated with these fields, we can see how pivotal it is to integrate alternative health care."

Convinced of their value, consumers already spend billions of dollars each year out of their own pockets for these treatments, noted Susan Luck, national director of UM's Integrative Nursing School. "If major health care organizations do not understand what integrated health care is, they are missing a major opportunity," she said. "We are not talking about changing their minds or changing their practice, but about their beginning to understand which modalities might be helpful to their patients."

To be sure, integrative medicine faces many challenges, including a lack of reimbursement from insurance companies, the need for more research, and the fact that doctors and patients often do not take these therapies seriously. But Luck predicted that insurers will eventually begin reimbursing for many treatments. "They now have these programs within their own companies, and they have seen their own health care costs reduced. So … they will invest in prevention by using these modalities," she said.

Perhaps one of the biggest challenges for integrative therapies is the lack of research into their effectiveness. That breeds skepticism among doctors, patients and insurers. "We need to get valid information into the media because this will help to change the mind-set of people who are in charge of creating the health care plans, as well as some of the insurance companies," Ambrosia said, noting that nurses can play a leading role in spreading the word about alternative therapies.

—By Charlotte Libov

[big ideas]

Integrative therapies can help lower treatment costs for some of the most devastating conditions.

Leading institutions including Duke and Johns Hopkins already offer integrative care.

Insurers eventually will begin reimbursing for integrative therapies.

The School of Nursing and Health Studies presented the panel, which was moderated by Nilda Peragallo, the School's dean.

"When we look at the costs associated with these fields, we can see how pivotal it is to integrate alternative health care."

A Sea of Potential

The world's oceans can make us healthier on a variety of levels, but keeping them healthy is a priority as well.

THE OCEAN PRODUCES 75 million tons of seafood per year, feeds more than 3.5 billion people, generates more than 50 percent of the oxygen we breathe and regulates the planet's climate. Just being near it can improve human health, and its very depths have yielded everything from novel medications to the secrets of the human nerve system. Yet we continue to use the ocean as a dumping ground and act as if its resources were limitless.

"We're just assuming it's going to be there forever, and that's not very smart," said environmentalist Nicolas Ibargüen, publisher of *PODER* magazine.

The ocean provides opportunities to fight disease, promote human health and improve well-being, said Michael H. Depledge, interim director of the European Centre for Environment and Human Health at the Peninsula Medical School in Devon, U.K. "Many of the major discoveries about human health and well-being are being made using marine animal models," he explained. Among them: a potent anti-cancer drug from the Caribbean sea squirt, and a potential treatment for cystic fibrosis derived from the Florida red tide toxin.

Just living near the ocean can help treat mental disorders and fight obesity. Depledge cited statistics showing that people living in coastal zones are 23 percent less likely to be sedentary than non-coastal dwellers.

At the same time, researchers have new concerns about the stress we put on the ocean, according to Lora Fleming, a physician and director of the European Centre for Environment and Human Health. Those concerns include pollution from sewage, marine food chain pollutants like the pesticide DET, and nanotechnology and the tiny particles in products ranging from lotions to medical devices. All are seeping into the marine environment.

Clearly, there are far-reaching environmental reasons to treat the oceans better. But there are also financial reasons. "Our company's business depends on the ocean," said Richard D. Fain, chairman and CEO of Royal Caribbean Cruise Lines and a UM trustee. The company has taken steps to mitigate its environmental impact, including using solar panels and ducktails on ships to save energy, and coming up with new ways to manage onboard waste. Fain noted that a person onboard a cruise ship generates an average of 4.5 kilograms of waste daily. Although the company compacted that down to 1.5 kilograms, the U.S. Public Health Service cited concerns about bacterial growth. Royal Caribbean came up with the idea to freeze waste to halt bacterial growth. "There are solutions if you look for them," Fain said.

Companies will have to look for them. As Fleming warned: "Our impact on the oceans comes back to haunt us in terms of impacts on human health."

—By Millie Acebal Rousseau

[big ideas]

People living in coastal zones are less likely to be sedentary.

Many major health discoveries are made using marine animal models.

"Our impact on the oceans comes back to haunt us in terms of impacts on human health."

The Rosenstiel School of Marine and Atmospheric Science presented the session, which was moderated by Sharon Smith, co-director of the School's NSF-NIEHS Oceans and Human Health Center.

A Question of Care

Where will our elderly spend their golden years – and who will pay for it?

AS THE ELDERLY POPULATION in the United States continues to grow, even health care industry leaders remain baffled about how to adequately and affordably meet demand for long-term supported living services.

"I think it is a crisis," said Randall Richardson, president of Vi, a national chain of senior living facilities formerly known as Classic Residence by Hyatt. "It is a huge issue … and we are going to have to deal with it."

Some companies are looking to private-public partnerships to foster innovation. Joseph Steier (MBA '06) III, president and CEO of Signature HealthCARE, an operator of retirement communities, reported that his company has been working with universities to research options. "Nobody has any real solutions by himself," said Steier, who is a member of the School of Business Programs in Health Sector Management and Policy Advisory Board.

According to Jennie Chin Hansen, CEO of the American Geriatrics Society and past president of the AARP, 75 percent of the nation's health care spending goes to treat chronic disease, and 82 percent of Medicare beneficiaries have at least one chronic condition. With people over 85 the nation's fastest-growing demographic, that proportion could grow even larger.

But long-term care is expensive, and Americans need to make a significantly larger investment in the care of the elderly, said Paul Klaassen, founder and chair of assisted-living facility operator Sunrise Senior Living. "We don't spend that much compared to other countries, and that is a tragedy," he noted.

In many cases, family members care for aging relatives; one in five adults in the U.S. provides unpaid care for someone suffering from a disability — work Hansen collectively valued at $94 billion a year. Many of these caregivers are forced to reduce hours at their job or even retire to manage the burden, he added, with an annual impact of $36.5 billion on the nation's economy.

The decision many people make to stay in their own home rather than move to a senior community also has ramifications. Richardson said senior communities offer "socialization," while those "living at home, alone, experience something similar to solitary confinement."

Miami Jewish Health Systems offers both options, said Jeffrey Freimark, the nonprofit's president and CEO, who is a member of the School of Business Programs in Health Sector Management and Policy Advisory Board. Case workers and social workers offer day care to seniors over the age of 87 who remain in their own homes, while the system's Douglas Gardens Campus is home to nearly 700 seniors, including 25 centenarians. Freimark says heavy social interaction and therapy combine to give these residents, whose average age is 90, "longer, healthier and more enriched lives." The organization's day care program leads to an average of three years of additional life, versus 18 months in a typical nursing home, he added.

To truly advance long-term care, Klaassen suggested, the U.S. should learn from other countries. For instance, the Netherlands mitigates costs by allowing seniors to determine how their care money is utilized — say, by entering an assisted living facility or hiring a grandchild as a caregiver. "We have to decide as a nation that we are willing to pay for quality long-term health care," he said.

—By Erik Bojnansky

Signature HealthCARE LLC sponsored the session, which was presented by the School of Business Administration.

[big ideas]

75% of U.S. health care dollars are spent treating chronic disease.

Family plays a vital role in home caregiving, to the detriment of the economy.

The U.S. may need to make a much larger investment in caring for the elderly.

"We have to decide as a nation that we are willing to pay for quality long-term health care."

Prepare for Difficult Decisions

Health care providers, patients and their families must spend more time planning for end-of-life care.

"Why do we let the artifacts of a reimbursement system get in our way in figuring out how we're going to take the best care of people?"

END-OF-LIFE CARE requires a new model focused on a team approach and early intervention, as well as more education for health care providers, patients and their families.

Conversations about such care should be started early in the course of a serious illness, and involve everyone from the patient and his or her physician to family members and community services, said Barry M. Kinzbrunner, executive vice president and chief medical officer for VITAS, one of the nation's largest hospice care providers. "By starting it earlier, the transition [to hospice] is much more smooth and seamless," he said.

End-of-life care may include both palliative and hospice care. Each takes a holistic approach to a patient's well-being, with a focus on managing pain and symptoms. But hospice care is only given during the last six months of life, while palliative care may include the management of chronic disease processes and treatment aimed at curing illness.

Hospice care, Kinzbrunner explained, "is tailored to the wishes and needs of the patients and their families, and that's key."

But that type of care should not be restricted to the patient's last six months of life, argued oncologist Amy Abernethy, an associate professor of medicine at the Duke University School of Medicine and director of the Duke Cancer Research Program. Rather, she said, palliative and hospice care should be combined. "Why do we let the artifacts of a reimbursement system get in our way in figuring out how we're going to take the best care of people who are potentially suffering from their illness, irrespective of their current length of life?" she asked. "Because frankly, it's really hard to figure out how long people are going to live."

Abernethy suggested a model in which physicians work with hospitals, community organizations and finally hospice providers to provide care to patients with advanced illness. And any such model should include the patient's own doctors, she said, who often find themselves unprepared for such a role.

"We need to be able to transform, in many ways, the way we think about educating the workforce … to provide better holistic care," said physician Richard Payne, a professor of medicine and divinity at Duke University. Despite concentrated efforts to do so during the past decade, "we still have a ways to go," he said.

Physicians aren't the only ones who must be better prepared for end-of-life care. Patients, too, must plan for that time, noted UM Religious Studies Professor Stephen Sapp. Living wills and health care surrogates, for example, can ease end-of-life stress. "If we do some advanced planning at this point in our lives, our families won't have to guess … what we would want," he said.

—By Andrea Carneiro

VITAS sponsored the session, which was moderated by VITAS CEO Tim O'Toole, a member of the School of Business Programs in Health Sector Management and Policy Advisory Board. The School of Business Administration presented the session.

[big ideas]

Physicians need more education about end-of-life care issues.

Conversations about such care should begin early in the course of a serious illness.

A unified vision for palliative and hospice care needs to be developed.

Elderly Adopters

The Internet, mobile phones and telemedicine have the potential to make seniors healthier, but usability issues loom large.

TODAY'S COMMUNICATION TECHNOLOGIES have the potential to enhance the health of older Americans and save billions of dollars on their care, but they must be designed and presented so that senior patients understand how to use them.

Telemedicine, for example, can make checkups easier for both seniors, who may have mobility issues or be homebound, and providers, who can use it to "visit" patients remotely.

"There are a lot of logistical advantages in terms of eliminating the need for both patients and health care providers to travel to and from the clinic or to a patient's home," said Sara J. Czaja, co-director of UM's Center on Aging and director of the Center on Research and Education for Aging and Technology Enhancement (CREATE) at UM's Miller School of Medicine.

Some companies are exploring the use of patient portals to check test results and prescriptions. They are also looking at using video phones to provide support groups for home health care workers, and to allow providers and family members to communicate with one another.

There are plenty of challenges — including cost — to introducing the technology, providing technical support, and dealing with interface and usability issues. Joseph Sharit, a research professor at CREATE and in the College of Engineering's industrial engineering department, presented findings from the center's many studies showing that older Internet users had trouble finding information online and with "the mechanics of an Internet search." However, when they did find what they were looking for, they generally considered the information credible.

"Unless these issues are resolved, I don't think the potential of all these tools and systems is going to be realized for a large portion of our population," Czaja said.

That potential may begin with the move to electronic medical records. Alan Wheatley, vice president and CFO of senior products at Humana, said he believes that electronic medical records "will drive unbelievably improved quality of care and improved decision making for not only our senior population but for all."

[big ideas]

Telemedicine and other communication technologies can improve seniors' access to care.

Older Americans generally find online information credible.

New software and devices must address seniors' cognitive and physical barriers.

Older adults are becoming comfortable with mobile technologies, which also offer opportunities to improve patient care and treatment compliance. Barry Hix, director of health solutions for the mobile platform company 3Cinteractive, presented evidence that by 2012, 80 percent of the over-65 population will have sent a text message. The driving factors for learning to text — as for technology adoption in general among that demographic — are social pressures and the desire to communicate with children and grandchildren.

Still, any new software and devices must address seniors' cognitive and physical barriers, Hix said. "You don't get much experimentation," he explained, "so you better get it right the first time with the senior audience."

—By Andrea Carneiro

C3|CustomerContactChannels sponsored the session, which was presented by the College of Engineering and moderated by Shihab Asfour, the College's associate dean and interim chair, department of industrial engineering.

"You don't get much experimentation, so you better get it right the first time."

Advances in Aging: Science vs. Spirituality

What is the secret to living longer – and better?

A COMBINATION of scientific and spiritual ideas from around the world may be the key to the ongoing quest for longer life.

That was the consensus among experts who shared their insights following the preview of a documentary about some of the challenges associated with aging. Clips from *The Silver Mirror* (www.silvermirror.org), which opened the session, featured scientists speaking about aging and lines of research that may someday treat or even "cure" it, as well as examinations of assisted suicide. The award-winning documentary filmmaker Ali Habashi, director of the University of Miami Arnold Center for Confluent Media Studies, is the film's producer and director, and moderated the session.

Masami Takahashi, assistant professor of psychology at Northeastern Illinois University, presented a study suggesting that respecting elders' place in society and keeping them involved in their communities may be one aspect of keeping people feeling youthful.

Noting specifically that the residents of Okinawa, Japan, live significantly longer, on average, than people in the rest of the world, Takahashi focused on how spiritual traditions shape their view of aging. "Their lives are intertwined with a sense of spirituality that enhances the lives of older individuals," he said. For example, the eldest woman in a household is tasked with wandering the area to gather herbs for certain rituals. These activities help keep her active and give her a sense of purpose, making her a vital part of everyday life.

Contrast that with American culture, which tends to value youth in a way that makes aging more difficult to bear, noted Stephen Sapp, a professor of religious studies in UM's College of Arts & Sciences.

"We place so much emphasis on youth. The things that we consider markers of aging well are those that we associate with youth," Sapp said. "As long as we continue to do that, we devalue aging."

On the other side of the spectrum, Carlos Moraes, professor of neurology and cell biology and anatomy at the Lois Pope LIFE Center at UM's Miller School of Medicine, noted the scientific side of anti-aging research, specifically his study of the links between mitochondria and aging. He highlighted research on mice and primates showing that caloric restriction and a naturally occurring chemical found in red wine seem to slow physical decline by a number of measures.

But despite research and promise, Sapp worries that pure science can't address a deeper problem many have with aging.

"Elderly and dying people have needs beyond the physical," he said. "Modern science can offer us the means to live longer lives but … it is powerless to offer us a meaning to live for."

—By Susannah Nesmith

The Arnold Center for Confluent Media Studies presented the session.

[big ideas]

A combination of spirituality and science may hold the keys to slowing the effects of age.

Keeping the elderly engaged in everyday life and giving them a sense of purpose may help them live longer.

Growing research shows that caloric restriction and a chemical found in red wine may slow physical decline.

"We place so much emphasis on youth. … As long as we continue to do that, we devalue aging."

The Art of Observation

Learning to understand art can help medical professionals become better caregivers.

BY STUDYING THE HUMANITIES and art in medical school, providers can become better observers and diagnosticians, improve communication with interdisciplinary teams, and be more compassionate, humane medical professionals.

That was the message from a panel of educators and researchers. They have been studying Visual Thinking Strategies (VTS), a teaching method which helps develop the skills used to examine art for application in other professions. It asks students three basic questions: What is going on here? What do you see that makes you say that? What more can you find?

Those questions can be applied in a clinical setting, helping students improve visual observation, listening skills and communication — particularly interdisciplinary communication. VTS practice also nurtures analysis, empathy and self-reflection — all skills that are critical for creating compassionate medical professionals, said physician Alex J. Mechaber, senior associate dean for undergraduate medical education and associate professor at the UM Miller School of Medicine.

Abigail Housen, co-founding director of VTS, stressed the importance of using the eyes to open minds: "Our eyes are often the first to perceive, and our eyes remind us to test our thinking, our assumptions."

Art enhances visual observation, which leads to sharper clinical skills, said Sherrill H. Hayes, professor and chair of UM's department of physical therapy. "Diagnosis is often about pattern recognition, and the more people see and observe and develop their clinical expertise, the better they get at this," she said.

Medical professionals must listen to and observe patients to make sure they're hearing and interpreting correctly, explained Hayes, and the VTS practice of listening and paraphrasing teaches them to do just that — the counterpart to taking a good medical history.

Current students especially, being so adept with social media, may benefit from the VTS focus on observation. Hayes believes these young people often miss the nuances of looking at faces, which provide incredible information about health and disease through expressions of emotions and pain.

Studies have found a link between art exposure and the increased frequency and accuracy of visual observation, as well as improved accuracy of communication relating to patient history. Hayes' surveys of her own students have found significant improvement in all those areas when artwork observation was part of the curriculum.

Bringing art into the medical curriculum also gives students the opportunity to express their feelings and thoughts, and discuss emotional and spiritual patient experiences, all which are often overlooked in medical training, Mechaber said. "This can be vitally important to help decrease the erosion of empathy that we see in our trainees over time," he explained. "Patients are frequently unhappy with medical care because physicians often fail to demonstrate humanistic qualities that are so essential to providing good, quality care."

—By Millie Acebal Rousseau

The Lowe Art Museum presented the session.

[big ideas]

Learning about art can lead to better observation and communication skills.

Diagnosis is about pattern recognition, yet it doesn't always come naturally to medical professionals.

Medical students often fail to understand the nuances of facial expressions.

"Our eyes are often the first to perceive, and our eyes remind us to test our thinking, our assumptions."

The Sounds of Change

Bringing music to at-risk youth may lead to better grades and a brighter future.

MUSIC MAY NOT ONLY MAKE for healthier bodies and minds in children, it may also increase grades and lower dropout rates.

So says Harmony Project founder Margaret Martin, who began studying the relationship between music and at-risk youth in 1999, while a doctorate student at UCLA. During a trip to a street market in Los Angeles, she encountered a group of gang members who stopped in front of a child playing Brahms on the violin. After listening silently for five minutes, they tossed money in the child's violin case and left.

That event inspired Martin to create Harmony Project, a nonprofit that runs after-school music classes and youth orchestras for at-risk kids in L.A. gang neighborhoods, where dropout rates exceed 70 percent. Martin attracted 36 kids the first year. Now, 10 years later, about 1,000 participate, with the help of 12 staff members and 80 professional musicians.

Practicing music not only keeps kids away from gangs, drugs and sexual predation; it also keeps them out of academic trouble, says Martin, whose organization requires its students to remain in school. She believes that Harmony students apply the same "concerted cultivation" required to play a musical instrument to their academic work. "You can't learn an instrument by practicing once a week. You have to practice every day, and then you learn and get better," she said. In fact, all of the Harmony Project students who graduated from high school last year were admitted to college.

One reason musical children become better students is because their brains are biologically altered from practicing music, said Nina Kraus, a professor of neurobiology, physiology and otolaryngology at Northwestern University's School of Communication. "Musical training changes sound processes in the brain," Kraus explained. "When you are actively engaged in music, you are making sound-meaning connections constantly. And this complex of what you hear and what you're playing and the meaning that it has is very, very important for the wiring of your nervous system."

Kraus and her colleagues at Northwestern's Auditory Neuroscience Laboratory have produced data confirming that musical experiences refine the brain's ability to "encode" sound. This improves its capacity to process not only music but also other phenomena on the ear-to-brain pathway, particularly speech and reading.

One of her studies found that schoolchildren who received musical training showed greater increases in reading scores compared to students who received art training. "Reading is quintessentially multi-sensory, as is music," Kraus said. Her research also shows that kids who are musicians have better "speech perception in noise," which correlates with better learning outcomes.

—By Kirk Nielsen

The Frost School of Music presented the session.

"This complex of what you hear and what you're playing and the meaning that it has is very, very important for the wiring of your nervous system."

[big ideas]

Musical training can change brain processes.

Music programs aimed at at-risk youth have lowered dropout rates.

Applying the discipline required to study an instrument to academic pursuits helps children improve grades.

Tackling Obesity

Attacking this $150-million-a-year problem requires creative partnerships.

OBESITY is one of the nation's most serious health problems, and attacking it requires effective partnerships and a focus on prevention.

"Our country spends almost $150 billion every year treating obesity-related diseases, most of which are preventable," said Isaac Prilleltensky, dean of the UM School of Education and the Erwin and Barbara Mautner Chair in Community Well-Being. He noted that about two-thirds of American adults and a third of American children are overweight or obese.

Indeed, said S. Leonard Syme, professor emeritus of Epidemiology and Community Health/Human Development at the University of California School of Public Health, "We spend enormous energy helping to treat people who are obese, but we don't talk a lot about the multiple causes. We need to pay more attention to prevention."

Arlette Perry, professor and chair of the Department of Kinesiology and Sport Sciences at the UM School of Education, cautioned against looking at just one cause. "Forget genetics or the environment," she said. "It's everything, from sitting at a computer to advertisements on TV to cutbacks in physical education in school."

Perry recently developed the School of Education's THINK program (Translational Health in Nutrition and Kinesiology), which aims to help students think about their health on multiple levels. They see metabolic charts while doing weight training to understand what is happening in their bodies. They look at the labels of their favorite foods to identify sugars and fats.

Those labels are very influential in consumer food choices, noted Barbara E. Kahn, until recently the dean of the UM School of Business. For instance, studies have shown that people eat fewer cookies when they see a "heavy" image at the bottom of a box. "Just imagine what would happen if marketers were motivated to make you eat healthier, like marketing carrots as junk food," she said.

Residents of impoverished urban neighborhoods may need help to make healthy food choices, noted chef Michel Nischan, CEO and president of Wholesome Wave. "It takes both access and affordability," he said. "Someone who has only $2 to spend on dinner will buy an inexpensive cup of noodle soup for her family rather than expensive fresh fruit or broccoli." To combat that, Nischan's foundation launched a program that doubles the value of food stamps used to purchase fresh fruits and vegetables at local farmers markets.

Obesity must be attacked when children are young, said Richie Woodworth, president of athletic shoemaker Saucony, and president of the board of the Saucony Run for Good Foundation. "Strategies to prevent excess weight gain during childhood may be more effective than treating overweight teens," he said. "Right at the top of the list is increased physical activity."

Increased physical activity might just change a child's life, noted two-time Olympian Lauren Williams, a former UM student who started running at age 9. She's now working on healthy eating and sharing her experiences as a life skills coach and community coordinator.

—By Richard Westlund

[big ideas]

The U.S. spends $150 billion annually treating obesity-related diseases.

The best way to combat adult obesity may be to prevent excess weight gain in childhood.

Prevention should take a multi-system approach and include public-private partnerships.

"We spend enormous energy helping to treat people who are obese, but we don't talk a lot about the multiple causes."

The School of Education presented the panel session.

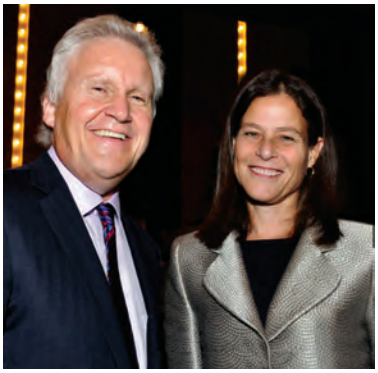
2011 GLOBAL BUSINESS FORUM

Extending the Engagement

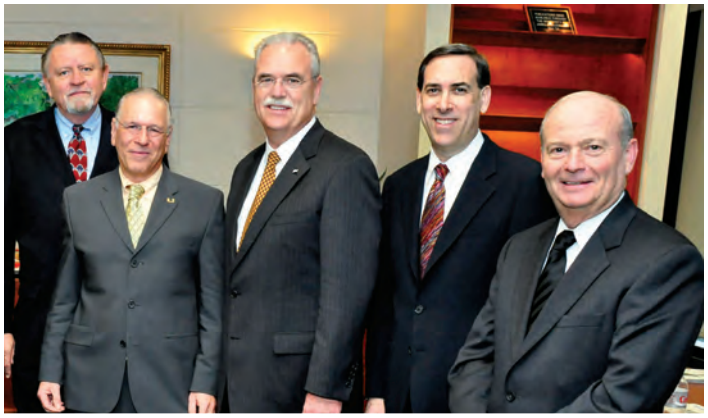
The 2011 Global Business Forum brought together more than 700 thought leaders from around the world to talk, in both formal and informal settings, about the future of the business of health care. The Forum's key sponsors were Blue Cross and Blue Shield of Florida and Bank of America Merrill Lynch.

Steven G. Ullmann (left), Professor of Management and Director, Programs in Health Sector Management and Policy, UM School of Business; Fawn Lopez, Vice President–Publisher, *Modern Healthcare/Modern Physician*; and Brian Keeley, President and CEO, Baptist Health South Florida, and a member of the School of Business Health Sector Programs Advisory Board

Kathleen Sebelius (left), Secretary, U.S. Department of Health and Human Services; and Penny Shaffer, Market President–South Florida, Blue Cross and Blue Shield of Florida, and a member of the School of Business Health Sector Programs Advisory Board



Jeffrey R. Immelt, Chairman and CEO, General Electric, and Barbara E. Kahn, Former Dean, School of Business



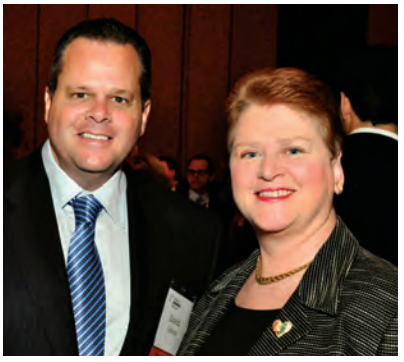
(From left) William Werther, Professor of Management, School of Business; Steven G. Ullmann, Professor of Management and Director, Programs in Health Sector Management and Policy, School of Business; Richard J. Umbdenstock, President and CEO, American Hospital Association; Jon R. Cohen, Senior Vice President and Chief Medical Officer, Quest Diagnostics; and Patrick Barron (BBA '75), First Vice President and Chief Operating Officer, Federal Reserve Bank of Atlanta, and President, UM Alumni Association

Kim Griffin-Hunter (BBA '88, MBA '95), Partner, Health Sciences & Government, Deloitte LLP; and Paul H. Keckley, Executive Director, Deloitte Center for Health Solutions, Deloitte LLP

(From left) Gene Schaefer (BBA '88), Market President, Miami-Dade and Monroe Counties, Bank of America; Brian Mormile (BBA '88), Bank of America; and Mike Fernandez, Chairman, MBF Healthcare Partners and a UM Trustee

(From left) Sergio Gonzalez, UM Senior Vice President, University Advancement and External Affairs; Pascal J. Goldschmidt, Dean, UM Miller School of Medicine; Arthur Agatston, Associate Professor of Medicine, Miller School of Medicine, and Author; Ralph Sacco, President, American Heart Association, and Professor and Chair of the Department of Neurology, Miller School of Medicine

(From left) William A. Hawkins, CEO, Medtronic; Pascal J. Goldschmidt, Dean, UM Miller School of Medicine; and Frances Aldrich Sevilla-Sacasa (AB '77), Interim Dean, School of Business



David L. Epstein, Managing Partner, Presidential Capital Partners, and a UM Trustee; and Penny Shaffer, Market President–South Florida, Blue Cross and Blue Shield of Florida, and a member of the School of Business Health Sector Programs Advisory Board

Peggy Hollander, President, UM Citizens Board; and James D. Forbes, Global Principal Investments Executive, Bank of America Merrill Lynch

Steven G. Ullmann (left), Professor of Management and Director, Programs in Health Sector Management and Policy, School of Business; Tim O'Toole, CEO, VITAS, and a member of the School of Business Health Sector Programs Advisory Board; Frances Aldrich Sevilla-Sacasa (BA '77), Interim Dean, School of Business

(From left) Michael Stein, Corporate Vice President, International Division, Baptist Health South Florida; Richard Fain, Chairman and CEO, Royal Caribbean Cruises Ltd. and a UM Trustee; Peggy Hollander, President, UM Citizens Board; Brian Keeley, President and CEO, Baptist Health South Florida, and a member of the School of Business Health Sector Programs Advisory Board

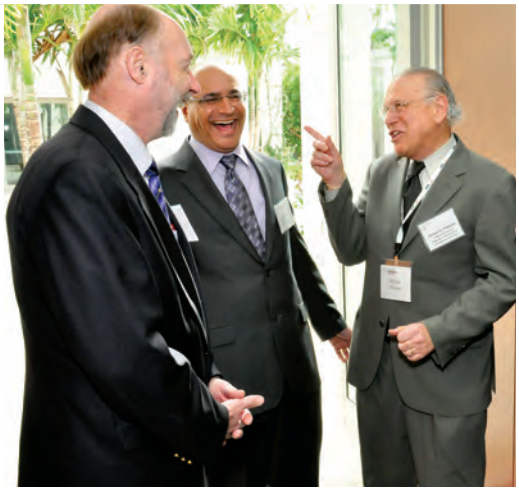
(From left) Barbara E. Kahn, Former Dean, School of Business; Steven G. Ullmann, Professor of Management and Director, Programs in Health Sector Management and Policy, School of Business; Margaret A. Hamburg, Commissioner, U.S. Food and Drug Administration; and Donna E. Shalala, President, University of Miami

(From left) Silvia Mestre, Femwell Group Health; Maria Alonso (BSIE '86), Bank of America; George Foyo, Baptist Health South Florida; and Martha de la Pena Rojas (AB '79), Blue Cross and Blue Shield of Florida

2011
GLOBAL BUSINESS
FORUM

Events included presentations and discussions with leaders such as GE CEO Jeffrey Immelt (above, with former Business School Dean Barbara Kahn), as well as networking receptions and lunches.

UM President Donna Shalala (left) led several sessions, and faculty from around UM joined in.



The UM Global Business Forum, Hosted by the School of Business

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A very special note of gratitude to the School of Business Administration Advisory Board to Programs in Health Sector Management and Policy