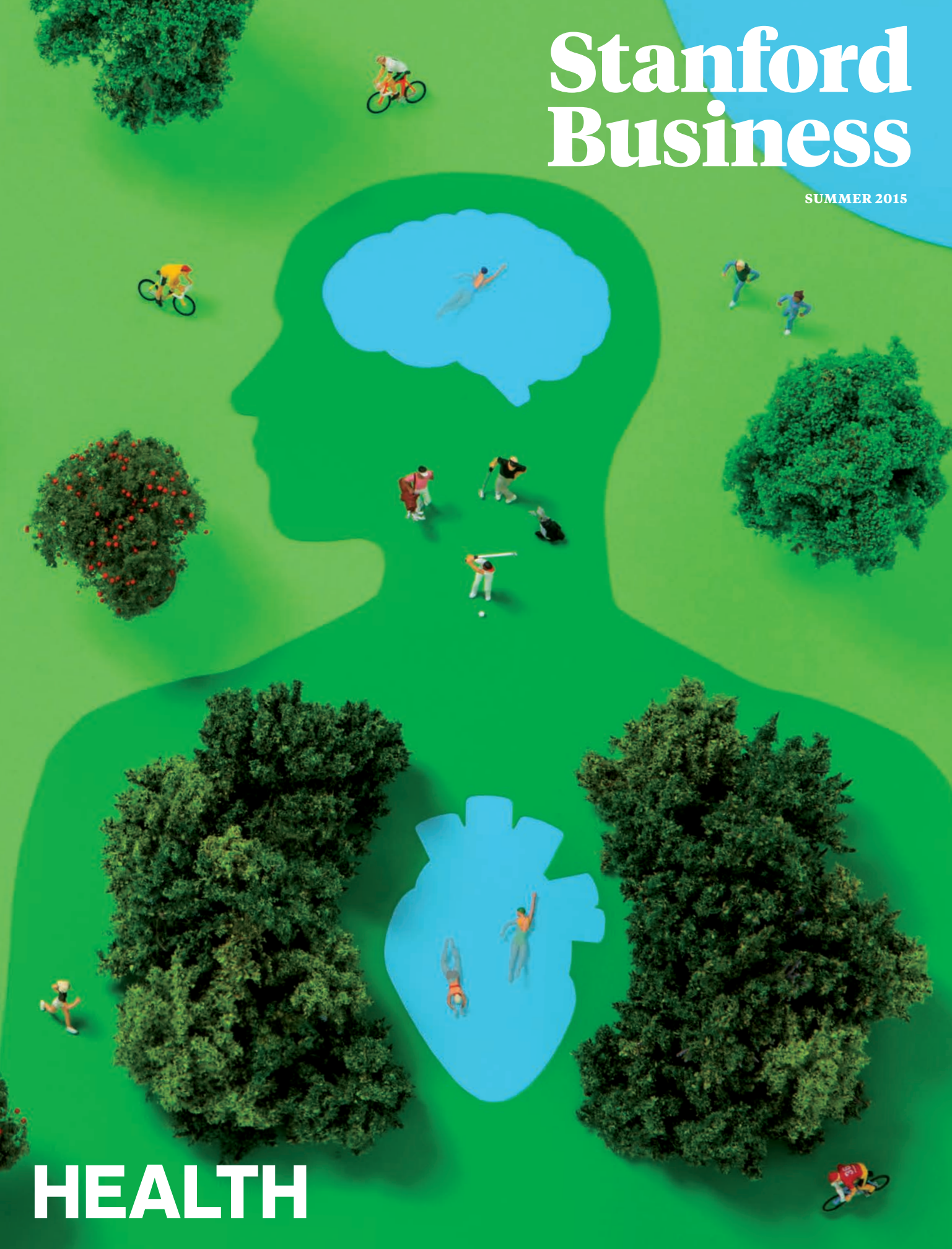


Stanford Business

SUMMER 2015



HEALTH



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(two-module program)

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February 21 – 26 and April 24 – 29, 2016
(two-module program)

¹ "Stanford University's Economic Impact via Innovation and Entrepreneurship," a 2012 study by Stanford professors Charles Eesley and William F. Miller

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A LETTER FROM DEAN GARTH SALONER

What Is a Healthy GSB?

Health has been very much on my mind lately. It is three years since my wife of 33 years, Marlene, died after spending her last 15 years living gracefully with cancer. At the same time, I now have my first grandchild, a baby boy born on June 30. Such is the circle of life.

I've also been having fascinating conversations about health with Lloyd Minor, dean of our medical school, as he ponders the future of predictive, preventive, and longitudinal care and Stanford's role to push the frontiers of knowledge and bring the fruits of that strategic orientation to the communities we serve. One of the biggest revolutions in medicine will come from the use of "big data" to help us to live healthier lives and prevent illness. These are not just medical issues, they are business, leadership, and management issues and I look forward to the GSB and our alumni playing a role in that new era.

As I have been pondering these existential issues, I have been puzzling over the more prosaic question of the health of the GSB. What does it mean to say the GSB is in good shape? Even as we hope our alumni take good care of themselves and their loved ones so as to increase the likelihood of a healthy future, I wonder what it means for the GSB to engage in predictive, preventive, and longitudinal care of itself.

Just as our doctors measure our pulse, blood pressure, and other vital signs, we have statistics like our admissions rate, our yield on those we admit, the prominence of our faculty in their fields, student course evaluations, and so on. While we are enormously grateful to the faculty and staff who bring about those outcomes, those measures are in part lagging indicators of reputation and others' projections onto us rather than measures of fundamental underlying health.

As I consider the health of the GSB, I am drawn to disparate examples. I think of the 98% participation rate in the class gift by the MBA Class of 2015 and what that says about their commitment (we thank the student leadership for this great result!). I also think of the lights burning late at night in our Venture Studio as 102 teams of students from across the university whiteboard their startup ideas.

I reflect on the incredible faculty and staff effort that went into recruiting this year, resulting in the hiring of 12 new faculty members. I also consider the enormous faculty impact across a wide range of initiatives, including: constant effort to advance the frontiers of research, persistent renewal of our elective

curriculum, new research initiatives in big data and energy, participation in the Executive Challenge, innovation in the form and content of the MSx Program, accompanying students on study trips, advancing global initiatives through SEED and Stanford Ignite, leadership in leadership education, and pushing the limits of educational technology for our own students and in developing our new online executive education certificate program, LEAD.

I think of the dedication of our wonderful staff across a wide swath of activity. Most recently our facilities staff worked to ensure that our new student residence, Highland Hall, for which fundraising is still underway, will exceed our programming goals while coming in on time and under budget.

Perhaps most poignantly, I think of the 25th reunion of the MBA Class of 1990 last June. It was heartwarming to see nearly 200 members of that class return to campus, and hear them support one another through the mini "TED" talks they delivered or simply in quiet conversation. I was moved, too, by their pride in, and love and support for, their classmate General Motors CEO Mary Barra as she leads that iconic U.S. company into the future. And I consider our faculty who are developing and running a custom professional development program for GM's senior leadership so that we can play at least a small role in Mary's efforts to transform the company.

These and so many other images that come to mind are examples of student, faculty, staff, and alumni engagement in the life of the GSB. It is the quality of that engagement by which we should ultimately measure the health of the GSB. Because it is through the efforts and commitment of our stakeholders in our joint mission that we will thrive in the long run.

I thank our incredible alumni for all that you do to engage with us and with one another as we all strive to help each other lead lives of meaning and impact. ▲

Garth Saloner is the Philip H. Knight Professor and Dean of Stanford Graduate School of Business. Follow him on Twitter @Saloner



Tom Bird

Garth Saloner

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—Alain Enthoven

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Stanford Business

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FROM STANFORD
GRADUATE SCHOOL OF
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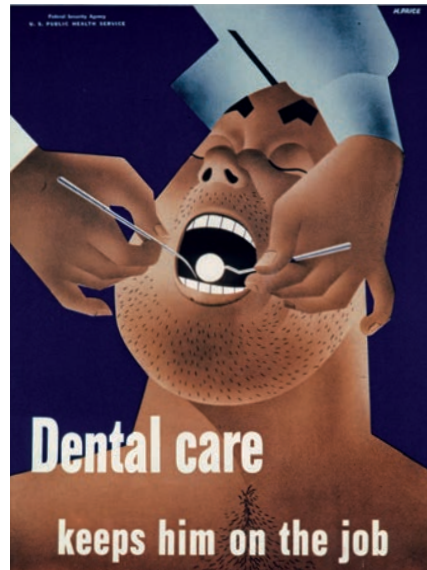
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VOICES FROM THE TOWN SQUARE
A few final words on our theme

Cover illustration by Alvaro Dominguez

INTRODUCTION

Health

As the World War II-era posters above illustrate, our health takes many forms and our sophistication in how to take care of ourselves has evolved over the years. In the pages that follow, you will see an array of stories that capture the breadth of some of today's knowledge about this subject. We examine what makes for healthy bodies, minds, workplaces, government and governance structures, and environment. ► In this issue, we've also zoomed the camera in to focus on health in its most concrete form: how to improve our medical system and the physical health of individuals in America and abroad. For example, we talked with economist Alain Enthoven on the strengths and weaknesses of the Affordable Care Act, and with emergency care physician Paul Auerbach about his work aiding those in need following disasters in places like Haiti and Nepal. We also consider competition and the application



World War II-era political posters from the collection at the Hoover Institution Library & Archives

of business principles in medical clinics and hospitals.

▶ You can find more on this theme at the recently launched Insights by Stanford Business section of our website (gsb.stanford.edu/insights) where stories are displayed across 17 different topics, including health care. Among them: a piece about M. Kate Bundorf's research on what really drives medical treatment decisions, a discussion of Daniel Kessler's research that shows that vertically integrated health care systems charge higher prices, and an in-depth look at the Affordable Care Act. ▶ At our digital home, we focus on key academic disciplines as well as themes such as social innovation and global business. If you find our stories and videos useful, share them with others and visit regularly to learn more. If you have comments, send them to us at StanfordBusiness@Stanford.edu

STANFORD BUSINESS

ONLINE



Vinod Khosla

YOUTUBE

“Failure does not matter — success matters. Nobody remembers what you fail at.”

Venture capitalist Vinod Khosla, a 1980 MBA graduate of Stanford GSB, discusses entrepreneurship, risk, and persistence.

<http://stanford.io/Khosla>

WEB

The Myth of the Liberal Supreme Court

Many people believe the U.S. Supreme Court leans left. But analysis of the justices' opinions compared with the general public's opinion suggests otherwise. “The Court is pretty close to the center of public opinion,” says Stanford scholar Neil Malhotra, “but a little to the right.” Read more: <http://stanford.io/Court>

WEB

Public Speaking 101: People retain structured information up to 40% more reliably.

Learn more tips and techniques for confident and compelling presentations: <http://stanford.io/Speaking>

YOUTUBE

Will Consumers Pay For Fair Trade?

Some shoppers say they want ethical goods, but will they prove it with their pocketbooks? Professor Jens Hainmueller says yes — but it's a very specific customer. Watch more: <http://stanford.io/FairTrade>

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Lives



“It’s important to be sure
you’re getting

**a panoply of
information.**

You have to think about
the social network you’re in —
is it really serving you well?”

—Roderick Kramer PAGE 16

CULTURE

The Key to a Healthy Relationship

Being able to give and receive effective feedback is critical. Here's why — and how to do it right.

BY DEBORAH PETERSEN

When it comes to guessing what others think of us, we often assume the worst, says Stanford GSB lecturer Carole Robin. “In situations where we are not getting feedback, we are essentially flying blind, and I believe that causes unnecessary stress,” says Robin. The solution: Create a “feedback-rich” environment in personal relationships and in the workplace. “The less I am worried about how I’m seen by my boss, my coworkers, and even my direct reports, the freer I am to focus on higher value-added work such as coming up with new ideas and being more efficient in helping to implement them,” says Robin.

But providing feedback to a colleague or a friend can be difficult and scary, especially when it concerns something that is hurting your company or your relationship with that person. That fear, Robin says, is based on a belief that many hold that constructive criticism will harm the relationship. As a result, she says, when someone is engaging in dysfunctional behavior, the tendency at first is to say nothing, especially when that behavior bothers you.

The reality, though, is that feedback can actually strengthen a relationship, because knowing that another person is going to tell it to you straight creates and builds trust. What’s more, trying to ignore bad behaviors means that they will most likely only continue. Over time, they will likely bother you even more. Taking the risk of providing feedback shows the other person that you are invested in the relationship and willing to take the time to help fix the issue.

Carole Robin, the Dorothy J. King Lecturer in Leadership, is director of the Arbuckle Leadership Fellows Program and the Interpersonal Dynamics for High-Performance Executives Program.

Photograph by Boris Zharkov

CAROLE ROBIN
We often assume
the worst.



The question, then, is how do you provide feedback in a constructive way. It takes practice, Robin says, but one key is making sure that feedback isn't given just once in a while, but instead is part of the ongoing maintenance of the relationship. Employees who rarely receive feedback are more easily upended by one piece of constructive feedback. Without the context or perspective that ongoing feedback provides, they might blow the comment out of proportion.

Of course, constant criticism, research shows, damages most relationships, and complimentary feedback is an important aspect of building them. "People do need to learn how to do both — equally and effectively," Robin says. To give constructive criticism to someone, you need to have built a relationship with them that includes positive feedback too.

Feedback, when well given, also involves a bit of self-disclosure. That is because in disclosing the impact the other person's behavior has on them, the person giving the feedback becomes somewhat vulnerable. That in turn helps the receiver hear it better and not feel as though he or she is the only party who is vulnerable in the exchange.

"That is not to say that I am advocating open kimono," Robin says. But you should also avoid going to the other extreme: "spinning" an image and keeping major parts of yourself hidden. Such superficiality makes it hard to connect to you, and that in turn can leave managers lonely and isolated, she says. And because many employees walk softly around people in authority anyway for fear of offending them, they are less likely to provide honest feedback to managers if they feel like they don't know where managers are coming from.

"We think, 'If you know this about me you wouldn't like me as much or find me as influential,'" she says. However, what her students discover in the *Interpersonal Dynamics* course she teaches at Stanford GSB is that the opposite can be true. People end up being more connected to the person, and more willing to be influenced by them "because I took the risk of letting you

know me better." Disclosure also begets disclosure, she says. People are more likely to share something about themselves with someone who does the same.

It is also important to be a good receiver of feedback, Robin says. People who don't receive feedback well are much less likely to get feedback and therefore forfeit the opportunity to learn about the impact of their behavior on others, she says. "That means they end up operating in an unhealthy vacuum of information."

HOW TO GIVE FEEDBACK

Lead with intent. Start by clarifying the purpose of what you are trying to achieve. "The reason I am telling you this is ... I am hoping the result of this conversation will be ..."

Have a conversation. View the conversation as a two-way exchange, not a one-way dump.

Understand the goal. The purpose of constructive feedback is to encourage the other to move into a problem-solving conversation with you, not to change for you. The purpose of complimentary feedback is to help others more fully own and leverage their strengths.

Focus on the behavior and its impact on you and/or your organization.

Language matters. Avoid attributions or labels such as "you are insensitive." Do not make up stories about why they act in a certain way, such as "you don't care." Use "I" language instead of "you" language, but remember that saying "I feel that you are insensitive" and "I feel that you don't care" is cheating.

One key to giving feedback is to make sure it isn't just given occasionally, but is part of ongoing relationship maintenance.

Use inquiry. Ask what the other person hears you saying. Ask what is important to them. Ask what they need in return from you.

Reframe. Maintain the mental model that feedback is a gift — it is data. And more data is always better because it provides us with choices we wouldn't otherwise have.

HOW TO BE A GOOD RECEIVER OF FEEDBACK

Tamp down your defensiveness. Avoid justifying, explaining, or making the other person wrong. Remember that feedback is data and having data is better than not having it because it expands our choices and results in healthier relationships.

Become curious. Tell yourself: "This person is upset with something I do. If I can figure out what that is, I can move toward solving the problem."

Repeat. Ask questions. "So, I hear that you are really annoyed and think I am not committed. Yes? It would be helpful to me if I understood what it is that I do that results in you feeling that way."

Signal that you understand. "I hear that the fact that sometimes I don't respond to your texts for several days is what leaves you feeling that I am not committed." This is better than getting into an argument about whether or not you are committed.

Thank the giver because at some level they care enough to say something.

Know when to stop. It is OK, and even preferable, to say when you need to take a break and negotiate a time to return to the conversation. The giver may have waited until he or she was really upset before saying anything, and therefore it is often easier to take the issues a bit at a time. ▲



A REDESIGNED CULTURE Hume Cronyn in the 1985 film *Cocoon*

LIFESTYLES

Six Things to Know About Successful Aging

Researchers say our potential is greater than we ever imagined.

BY SHANA LYNCH

The good news: Through modern technology and improved living conditions, we're living longer. In the mid-1800s, life expectancy in the United States was in the mid-30s. By 1900, we made it to 47. Today, we're averaging 79 years and counting.

The challenge: We haven't updated the way we think about our working careers and retirement to correspond. "The culture we live in today, which evolved around lives half as long, does a pretty good job of supporting people up to 50, and then it stops," says psychology professor Laura Carstensen, founding director of the Stanford Center on Longevity. "As we learn about aging, we're finding that the malleability, the elasticity, the potential for people to age well is greater than ever previously imagined."

Her goal? Redesign culture to incorporate today's longer lifespan. She and senior research scholars Martha Deevy and Kenneth Smith explained to an audience at the 2014 Fall Reunions and Alumni Weekend at Stanford GSB how we need to rethink mental and physical health, careers, and financial planning. Here are excerpts from their talk:

Laura L. Carstensen is a professor of psychology and the Fairleigh S. Dickinson Jr. Professor in Public Policy at Stanford, where she is also the founding director of the Stanford Center on Longevity. Martha Deevy and Kenneth Smith are senior research scholars at the center.



1. MENTAL HEALTH DOES NOT FALL OFF A CLIFF WHEN WE GET OLD.

We need to stop conflating disease with normal cognitive aging, Carstensen says. Most people do not get Alzheimer's. Knowledge trajectories go up across ages. We're underestimating the aging population's depth of knowledge. Also worth noting: Emotional health actually increases with age. People are less stressed, less anxious, and less angry.

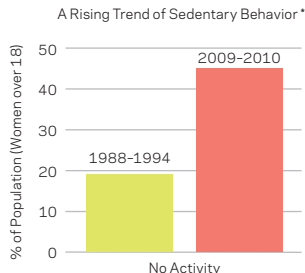


2. NEITHER DOES PHYSICAL HEALTH, BUT EDUCATION IS MORE IMPORTANT THAN YOU REALIZE.

Today most people believe that although we're living more years, those later years are in poor health. The reality is most of these extra years are healthy ones, Carstensen says.

But education matters — a lot. In one study, people with a higher level of education were more mobile and capable of living independently into those later years over those with fewer years of education.

"The bad news is that the majority of people in this country don't have high levels of education," she says. "It's sobering in some ways to see this steady decline in functional ability in people with less than a high school education or little education because this is the country we're living in."



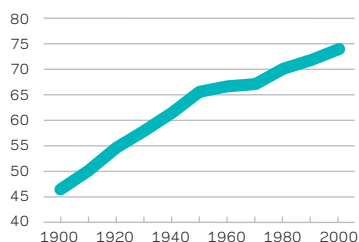
3. WE DON'T NEED THAT MUCH EXERCISE (BUT WE'RE STILL NOT GETTING ENOUGH).

No one doubts that exercise decreases the likelihood of chronic diseases, cancer, and strokes. It can also be good for your brain — it can help treat depression and may have a relationship to reduced instances of dementia.

But Kenneth Smith points out that over the past 20 years, more people are completely skipping exercise. And the reality is they wouldn't need to run marathons to see a major impact in their health. One study showed you could run 10 minutes a day and see your health improve.

"As long as you're getting a certain amount of running in each week, the drop in mortality rates happens and it happens really quickly," Smith says. For non-runners, think any vigorous activity — swimming, biking. You walkers can still get there, but you'll have to walk 25 to 30 minutes a day to see the same impact.

20th Century Period Total Life Expectancy From Birth*



4. WE HAVE TO WORK LONGER.

Martha Deevy notes that while we're living longer, we're retiring at the same age. That means while we used to live about nine years into retirement, we'll be spending 22 years in retirement by 2050. "John Shoven, our economist colleague over at the Stanford Institute for Economic Policy Research, is known for saying you cannot finance a 30-year retirement with a 40-year career, yet that's exactly what we're trying to do," Deevy says. "You've got to work longer. You've got to earn more."



5. WE HAVE TO SAVE MORE MONEY.

Deevy also highlights just how little we're banking. Only one-third of adults in their 50s have calculated what they need in retirement, she says. Forty-three percent of people age 55 or older have less than \$25,000 in retirement savings, and 14% of boomers have no retirement income at all. Add to that that only a small fraction of companies still offer pensions, and fewer people have faith that Social Security will be around when they finally need it.

"You have to think about investing in assets that actually will generate income at the end, and you need to protect those assets," Deevy says.



6. WE NEED TO REDESIGN FINANCIAL LITERACY.

The shift from defined benefit plans to defined contribution plans in the mid-1980s led to a proliferation of financial literacy programs, Deevy says, but those programs haven't been shown to actually improve the financial outcomes of participants. "We're teaching the wrong things," Deevy says.

We must rethink how to educate consumers about their savings. Companies, research institutes and government agencies are already shifting how they prepare their people for retirement. Some are making contribution plans look more like pension plans that are default, not opt-in. Companies are also learning that if they want to help their employees with retirement, they have to help those employees with all the other major spending decisions, from buying a house to putting the kids through school.

"There's this big push starting with large employers to really look at financial wellness in a comprehensive way," Deevy says. ▲

VENTURES

Three Entrepreneurs Discuss Health, Culture, and Inspiration at Work

BY ERIKA BROWN EKIEL

“Health Care Is an Essential Right.”

Edith Elliott is cofounder of Noora Health, a nonprofit that trains and educates patient families to recognize and respond to health emergencies, care for patients both in and out of the hospital, and treat and prevent disease. Noora primarily serves people who live below the poverty line in India and aims to improve clinical outcomes and reduce overall costs of care. In 2014 the organization trained more than 15,000 family members in India who saved an estimated 200 lives. Elliott was a Design Fellow at Stanford

GSB; she received her master’s degree in international policy studies with a focus in global health from Stanford.

What is the best advice you’ve ever received? The things that are the riskiest or that others think are insane are typically the things that are most worth doing. My parents instilled in me the idea that you should not live your life in repetitive motion but find an occupation that fulfills you both inside and out. That has been a driving force in my life and has encouraged me to bypass societal rules and expectations to craft the life I want.

What was the most difficult lesson you have learned on the job? Last year



Edith Elliott

we were urged to move very quickly and we tried to do too much. It was at the expense of our primary customers — disenfranchised patients and their families in India. We define ROI as “return on impact.” As a nonprofit you have to be so careful with resources, both monetary and human capital. We tried to jump into too many new fields, including the domestic market in the U.S., and we lost our focus on improving the things that mattered most to our core users.

All of this became clear to me after a week of intense reflection during a retreat. It gave me the time to step back and reflect on our strategy. I saw that we were working on projects that were eating up a lot of time and financial resources. The impact per dollar would have been much higher if we focused more exclusively on our work in India. We have since addressed that, and 95% of our time, resources, and energy are focused on our work in hospitals in India.

If there was one thing that has enabled you to be successful as an entrepreneur, what would it be? As the leader or co-leader of an organization, being able to clearly articulate your mission and vision is critical. Whether it’s getting people on board or fundraising, you need to be able to translate what is happening in the field to a larger audience.

What inspires you? I'm inspired by the families I visit in India. Seeing how a simple intervention can make a tremendous impact on the lives of so many people drives me. The hospitalization of a premature baby or a grandfather's open heart surgery has a tremendous impact on a family. If you teach one family member about hygiene and infection control, we have found that it leads to better health outcomes and completely changes the dynamic of a household or community. As demand on the health care system in India continues to grow disproportionately to the resources available, the family unit is going to be called upon even more. Our hope is not only to provide support for family caregivers but also to understand and illustrate for others in the health space the power of this compassionate untapped resource. That is what drives us.

What is your greatest achievement?

When I was 13 a very close friend of mine passed away from complications of HIV. It was a traumatic experience and really shook me up. I felt helpless. At the time, the only sex education that was allowed in the public school system was "abstinence only." I got together with some people from our community and started a peer-education and awareness program for youth in my town. We taught kids about condoms and safe sex. It has since spread to the county and the state. The feeling of helplessness ignited a fire within me.

What do you consider your biggest failure?

On my first trip to India I met a woman whose child was very sick in the hospital. He was dying in front of her eyes. She didn't speak the same language of the people in the hospital and came from a very poor rural community. It was understandably difficult for her to communicate with her doctors, and what she was hearing was very different from the reality of the situation. I tried to be a bridge between them but I also didn't speak her native dialect and was working through a translator. The hospital discharged them so they could have some time together as a family in her child's final days. I have always regretted not being able to do more for them. She also gave me her contact info and asked me to stay in touch. I tried but my phone calls never went through and my emails bounced back. She let me take a picture of her family. I think I have the only copy of the only photo that was ever taken of her baby. I have it and she doesn't.

What impact would you like to have on the world? Health care is an essential human right. Being born into a situation where your access to high-quality health care is lower should not inhibit you from successfully recovering from or managing your condition. We are on a mission to change the standard of care around the world and to engage family caregivers as a core component of high-quality, compassionate health care delivery.

What was your first paying job?

When I was 11, I taught toddlers and kindergartners an intro to ballet class two days a week. It was a productive form of babysitting. I loved it.

What is the best business book you have read? *Man's Search for Meaning*, by Viktor Frankl.



Fryderyk Ovcarić

“Entrepreneurship Is About Storytelling.”

Fryderyk Ovcarić is the founder and CEO of Instapray, a mobile app that helps people connect through prayer. After creating a profile, people can share prayers they've written, request support, or pray for others. Unlike anonymous apps and websites that enable gossip, bullying, and criticism, Instapray has strict guidelines that only allow positive, encouraging commentary. Instapray raised initial capital from

“Decision-making is very easy when you run it through the filter of a moral compass.”

Founders Fund and has so far hosted 33 million prayers, contributed by people from all over the world. Ovcarić was born in Poland and raised in Germany. He earned bachelor's degrees in literature and film from Université Sorbonne Nouvelle in Paris and received his MBA from Stanford GSB in 2012.

What advice would you give other entrepreneurs on how to build a great business? Be 100% certain you are excited about what you are doing and then do it with your whole heart. In good periods it will make the experience so much more fun. In the difficult moments, your passion and heart are the only things that will keep you afloat.

What inspires you? Passionate people inspire me. At Instapray, watching our team coming together around an idea, taking ownership of it and turning it into reality is what inspires me the most. I love to watch ideas grow and reach their destinations.

What impact would you like to have on the world? It is not the differences that divide us, but rather our inability to recognize and celebrate them. I would love to build a technology that helps mankind come together. I have traveled the world and seen all kinds of places and people and they are all beautiful. There are a lot of common denominators. We laugh, we cry, we are human. This is what Instapray is about.

Why are you an entrepreneur? It's not a choice you make. It is the way that I am. It is about going where I want to go. Entrepreneurship is about storytelling — the stories you tell yourself and you end up believing. Then they become reality.

What is the best business book you have read? Ted Turner's life story. He was stubborn and had unconventional ways of doing things. When everyone is telling you that you are crazy, you need something to hold onto. As a kid I read adventure books. That was part of telling myself

that everything is possible. I take a lot of pleasure out of the fact that I don't know what the future holds.

What is the most valuable thing you took away from your time at Stanford? Values. Moral compass. I used to be very fluent in gray. After school I stick only to the white. Decision-making is very easy when you run it through the filter of a moral compass.

What do you think is the greatest innovation in the past decade? I love the innovation that is happening in visual storytelling. The Oculus Rift is just the beginning of visual immersion of content.

“Iterate Fast.”

Dawoon Kang is COO of Coffee Meets Bagel, an online matchmaking service she cofounded with her two sisters, Arum and Soo. The site launched in April 2012, and the mobile app launched four months later. Since then, San Francisco-based Coffee Meets Bagel has made 20 million matches. Kang, who is single, is also a customer of Coffee Meets Bagel. “It’s the only way I get to meet new people!” she says. She graduated from Stanford GSB in 2009.

In 10 words or fewer, what is the big idea behind your business? Bringing curation and personalization to online matchmaking. Rather than overwhelm people with choices, we deliver one match to each user every day at noon. We also use

Dawoon Kang



your social network to help make matches. In real life, dating is mostly done through friends. We use the Facebook API. Another problem is that dating is hard to measure. You don't know why people like or don't like you. We created “Mirror Mirror,” which tells you how you are behaving on Coffee Meets Bagel. For example, in the past 30 days you liked this many people and they share these common keywords. You may be surprised about the things you learn about yourself.

What is the best advice you've ever received? A few years ago I was working at JPMorgan in a cushy, lucrative job. I told my dad I was thinking about leaving. He is an entrepreneur who built a metal recycling company, but he is also a traditional Asian parent. I worried that he was not going to be supportive. He responded with a Korean proverb: “Still water rots.” He said if you sit still and do not change, you will rot. He said he was happy I was going to challenge myself.

What was the most difficult lesson you have learned on the job? I've been working on learning to trust myself in the face of uncertainty. This is something a lot of entrepreneurs — especially women — struggle with. When you doubt yourself, it's easy to fall into a trap of paralysis, going back and forth about whether it's the right thing. As your company gets larger you have more to lose and it gets harder.

What advice would you give other entrepreneurs on how to build a great business? Iterate fast. A classmate and entrepreneur put it to me like this: If there are two competitors of similar caliber but one company can iterate 15 times in the same time that it takes the other to iterate 50 times, the second one is guaranteed to be the winner. You can't come up with the answer just sitting and thinking about it.

If there was one thing that has enabled you to be successful as an entrepreneur, what would it be? Having my sisters as my cofounders has helped me persevere. Without two partners I admire, respect, trust, and get so much comfort from, I would have given up a long time ago.

What is your greatest achievement? Our team. I feel so proud of having built this team from nothing. I still remember recruiting our first employee, our CTO. To join a company with three sisters requires a huge leap of faith! Now we are 17 people.

What do you consider your biggest failure? Sometimes I worry my lack of confidence is slowing us down. It took us longer than I would have liked to go international, for example, because I was never sure it was the right time.

What values are important to you in business? Going above and beyond what is expected of you and taking pride in your work.

What impact would you like to have on the world? I want to make the world a more loving place. I want to spread more love.

Why are you an entrepreneur? I think this desire to make an impact. I don't think I could have made a mark at JPMorgan. This business transforms the lives of so many people, including customers and teammates.

Do you think there is such a thing as balance? How do you achieve balance in your life? I'm working on balancing my identity in and outside of Coffee Meets Bagel. We are a consumer app, so our personal founding story and being the face of the company are essential parts of our brand. A couple of months ago I realized I need an identity outside the company. I'm still not doing a good job of that.

What is the best business book you have read? *Lean In*. Learning that someone as successful as Sheryl Sandberg struggles with Imposter Syndrome and had to “fake it 'til you make it” was an “aha” moment for me. I learned to embrace it and be aware of it. I also learned some new techniques in how to be a strong woman in the workplace.

What businessperson do you most admire? My dad. In Silicon Valley I see a lot of people with the mentality of starting a company, then quickly selling it and moving on. My dad has dedicated 30-plus years to building his business. He's seen it all. He was on the verge of bankruptcy at one point, and he brought it back to life. He is just as passionate and committed today as he was in the beginning. ▲

For the full versions of these interviews and more on entrepreneurs, visit gsb.stanford.edu/insights/entrepreneurship

MIND

Are Your Coworkers Talking About You?

A social psychologist explains why our brains sometimes jump to irrational, distrusting conclusions.

BY LOREN MOONEY

Trust can be a good thing in business: If you as an Apple employee in the Steve Jobs era believed in his brilliance as an innovator, for example, you'd feel more committed to the decision to develop a tablet device that did not yet exist. Trust is a way to have friction-free relationships by reducing transaction cost. Of course, some leaders, like Bernie Madoff, are worthy of distrust. The question is, when connecting the dots on a suspicion about leaders or groups in your workplace, how can you be sure you're right?

"The human brain is really hardwired to seek out and overweight certain kinds of information," says social psychologist Roderick Kramer. As he writes in a paper, "Misconnecting the Dots: Origins and Dynamics of Outgroup Paranoia," there are psychological factors at work — often in concert — that lead people to inflate or misconstrue suspicions into mistrust when it's not warranted. Here are three types of misperceptions to be aware of:

- **Overly personal construal of interaction:** "People begin to read their own personal story into a situation," says Kramer. "The reason I wasn't invited to that meeting is because they all discussed it and actively decided to exclude me."
- **Sinister attribution error:** "We often make paranoid attributions for benign behaviors," he says. "A lot of us have experienced this around email. I send an email to my superior and they don't get back to me right away. And I begin

to ruminate about why — they're mad at me, I've disappointed them, they're punishing me — when in fact they may be busy and not even reading email."

- **Exaggerated perception of conspiracy:** "This tends to be social in nature," says Kramer. "My colleague didn't get back to me, but come to think of it my boss didn't either — suddenly I begin to put those pieces together and think, 'Oh, I'm not going to get that promotion.'"

So how do you keep suspicions from spinning out of control while maintaining a healthy skepticism? "Just knowing the nature of these biases and the psychological factors that feed them allows you to begin to compensate for those," says Kramer. "In a way, we aspire to help the brain make rational choices by understanding some of the ways it goes wrong." Kramer offers these de-biasing strategies to avoid misconnecting the dots:

BE MINDFUL OF THE IMPACT OF STATUS

Those with fewer resources or less power have a tendency toward hypervigilance, a psychological factor that can exacerbate misperceptions, says Kramer. "Lower status groups tend to look around vigilantly for any evidence to support their theory, because they have a lot to lose if they get it wrong." In a study Kramer conducted on the graduate student-faculty relationship, for example, he found that graduate students

spent a lot more time worried about how well the relationship is going. "Not surprisingly, the faculty are busy thinking about the people they're accountable to, not the lower status people," he says.

GATHER DATA LIKE A SCIENTIST

Once you think you've come to a conclusion on an issue, try to prove yourself wrong, says Kramer. There's a whole body of research that suggests that people tend to seek confirmatory evidence to the exclusion of other information. "It's a natural thing we do," he says, "but a more rational approach is to work very hard to gather unbiased data, including information that might disconfirm your interpretation — scientists and doctors are trained to do this."

TALK TO THE OPPOSITION

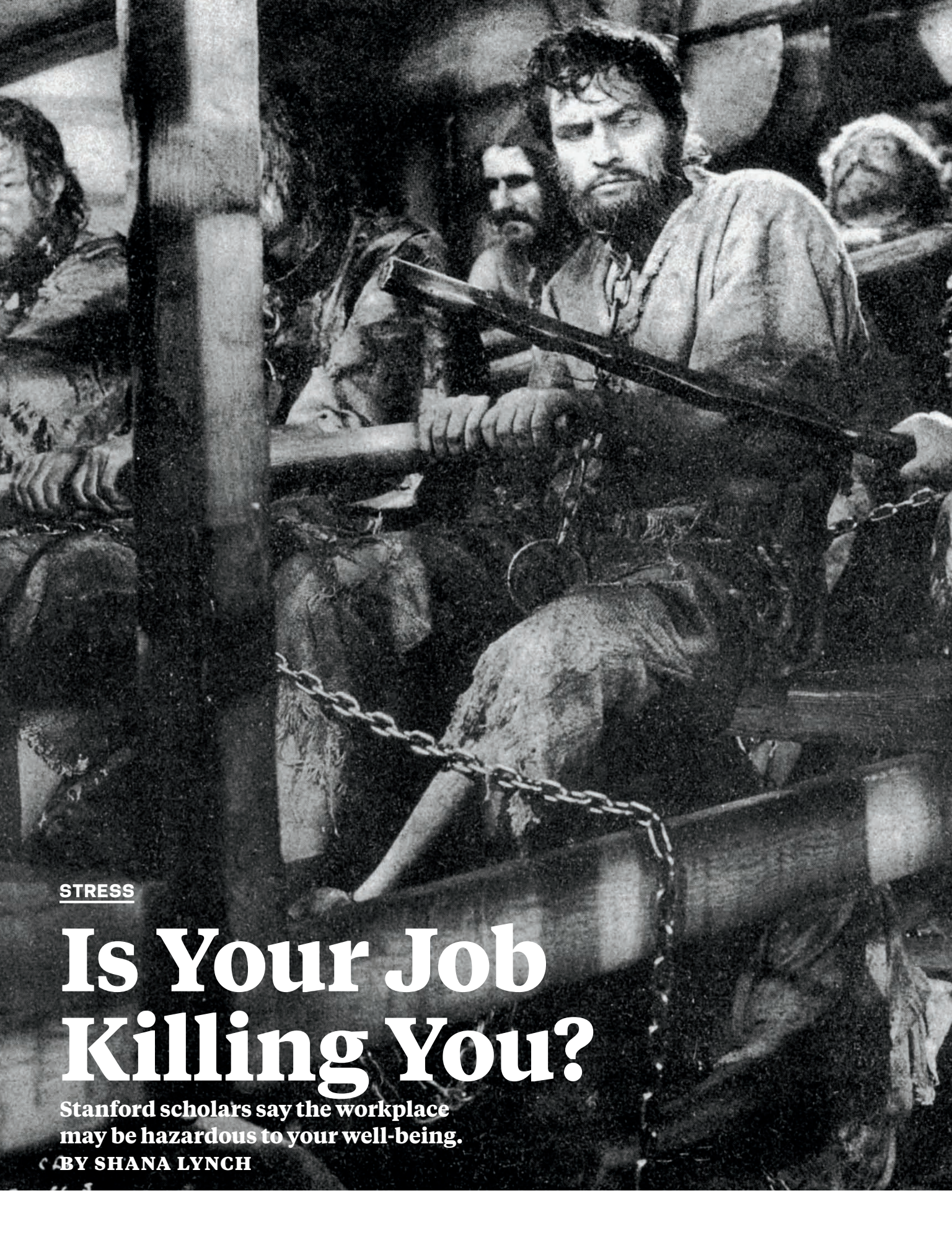
Part of questioning your interpretation of the facts should include talking to experts who have alternative interpretations. "Conspiracy theorists tend to go to websites they agree with and share information with like-minded people," says Kramer. But you have a better chance of getting it right if you constantly reassess your interpretation of the facts. "There is actually some wisdom in keeping track of what your enemies are doing," he says.

DON'T LET YOURSELF BE ISOLATED

Keeping suspicions to yourself, or confined to just a few friends who share your point of view, can fuel paranoia, says Kramer, who has studied leader paranoia and found that one of the common mistakes, especially by presidents like Richard Nixon and Lyndon B. Johnson, is to become surrounded by yes-men. "It's important to be sure you're getting a panoply of information. You have to think about the social network you're in — is it really serving you well?" ▲

Roderick Kramer is the William R. Kimball Professor of Organizational Behavior at Stanford GSB. The paper "Misconnecting the Dots" was recently published in the book *Power, Politics, and Paranoia: Why People Are Suspicious of Their Leaders*.





STRESS

Is Your Job Killing You?

Stanford scholars say the workplace may be hazardous to your well-being.

BY SHANA LYNCH



COULD BE WORSE
Jean Valjean
does hard labor
in a 1935 film
production of
Les Misérables

We may be long past the days of Upton Sinclair's *The Jungle*, the seminal book that depicted the harsh working conditions in America's meatpacking industry in the early 20th century, but the workplace is still hazardous to our health.

Workplace stress — such as long hours, job insecurity and lack of work-life balance — contributes to at least 120,000 deaths each year and accounts for up to \$190 billion in health care costs, according to recent research by two Stanford GSB professors and a former Stanford doctoral student now at Harvard Business School. “If employers are serious about managing the health of their workforce and controlling their health care costs, they ought to be worried about the environments their workers are in,” says Jeffrey Pfeffer, a Stanford professor of organizational behavior. Pfeffer, with colleagues Stefanos A. Zenios of Stanford GSB and Joel Goh of Harvard Business School, conducted a meta-analysis of 228 studies, examining how 10 common workplace stressors affect a person's health.

Jeffrey Pfeffer is the Thomas D. Dee II Professor of Organizational Behavior at Stanford GSB. Stefanos A. Zenios is the Investment Group of Santa Barbara Professor of Entrepreneurship and Professor of Operations, Information, and Technology at Stanford GSB.

They found that overall, these stressors increase the nation's health care costs by 5% to 8%. Job insecurity increased the odds of reporting poor health by 50%, while long work hours increased mortality by almost 20%. Additionally, highly demanding jobs raised the odds of a physician-diagnosed illness by 35%. "The deaths are comparable to the fourth- and fifth-largest causes of death in the country — heart disease and accidents," says Zenios, a professor of operations, information, and technology. "It's more than deaths from diabetes, Alzheimer's, or influenza."

PHYSICAL AND PSYCHOLOGICAL TOLL

The stressor with the biggest impact overall is lack of health insurance. It ranks high in both increasing mortality and health care costs. Another big driver of early death is economic insecurity, captured in part by unemployment, layoffs, and low job control.

The ramifications for the uninsured should come as no surprise, Pfeffer says, but what did surprise the team was the high impact of psychological stressors. Work-family conflict and work injustice had just as much impact on health as long work hours or shift work.

For example, employees who reported that their work demands prevented them from meeting their family obligations or vice versa were 90% more likely to self-report poor physical health, the researchers note. And employees who perceive their workplaces as being unfair are about 50% more likely to develop a physician-diagnosed condition.

HOW TO FIX WELLNESS PROGRAMS

Pfeffer first became interested in this subject while working on the Stanford Committee for Faculty and Staff Human Resources. Many companies and organizations such as Stanford, he says, institute wellness programs that focus on encouraging employees to eat better or exercise more. Meanwhile, these companies overlook the atmosphere of the workplace setting itself.

Smoking cessation programs or incentives to lose weight focus on individual behavior and ignore management practices that create stress and set the context for employee choices. "Lots of research shows that your tendency to overeat, overdrink, and take drugs are affected by your workplace," Pfeffer says. "When people like their lives, and that includes work life, they will do a better job of taking care of themselves. When they don't like their lives, they don't."

FOCUS POLICY ON PREVENTION

Good health matters to people and employers, but it also matters to government. The U.S. spends a higher proportion of its GDP on health care than most other industrialized countries, and significantly more per capita, the researchers note.

The researchers suggest regulations and policy changes that go beyond current overtime restrictions and wage laws, and focus on prevention. "Forty or 50 years ago, I could put toxins into the air or water, and someone else had to pay to clean it up," Pfeffer says. "We decided that wasn't very good because it costs more to remediate than prevent. It's true in the case of human health as well," he says. "It costs more to remediate the effects of toxic workplaces than it does to prevent their ill effects in the first place."

One suggestion is tax incentives that could encourage employers to offer more work-family balance or reduce layoffs. Non-regulatory actions like guidelines or best practices might also prove fruitful.

The study has some limitations, the researchers acknowledge. They are unable to make strong causal inference linking

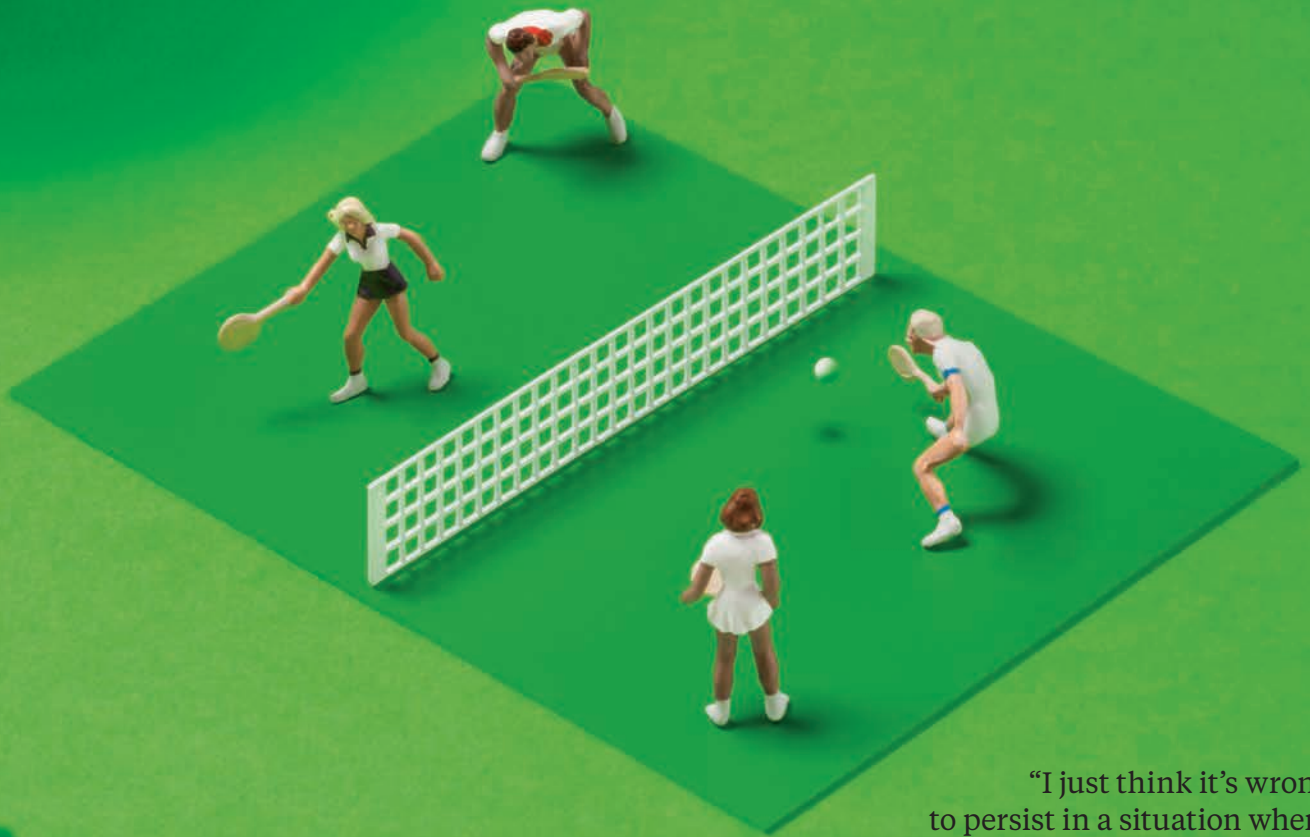
"When people like their lives, and that includes their work life, they will do a better job of taking care of themselves."

these stressors to poor health because the studies they used are observational. "It is association — it doesn't mean that there's causation," Zenios says. "There may be other factors going on." Also, people handle stress differently, so it's difficult to assess how attitudes toward stress affect the results. Finally, the researchers looked at only 10 stressors, examining simple ones that could be addressed by management changes.

RETHINKING THE WORKPLACE

Improving the work environment is not a Herculean feat, and many companies are already thinking beyond programs such as smoking cessation to those that address these stressors, Pfeffer says. Companies need to get serious about creating a workplace where people feel valued, trusted, and respected, where they are engaged in their work, don't worry about losing their jobs, and where they can get home in time for family dinner, he says. "My meta point is that we have lost focus on human well-being. It's all about costs now. Can we afford this, can we afford that? Does it lead to better or worse financial performance for the company?" Pfeffer says. "We're talking about human beings and the quality of their lives. To me, that ought to get some attention." ▲

Organizations



“I just think it’s wrong
to persist in a situation where

**a lot of couples
go broke
because
one of them
gets sick**

or they go without
adequate medical care.”

—Alain Enthoven PAGE 22

OBAMACARE

Is the Affordable Care Act Working?

BY SHANA LYNCH

Alain Enthoven, Stanford emeritus professor, has over 40 years of experience in the health care industry. He helped draft a plan for universal, market-based health insurance under President Jimmy Carter (which was not adopted) and spent four decades as a consultant to Kaiser Permanente. He developed the concept of managed competition, in which a regulatory body encourages competition among health care providers to keep prices low and quality high. The model would standardize the coverage contracts to make comparisons easy and adjust payments to health plans to compensate for the health risks enrolled. Here, he describes the politicization of the Affordable Care Act and how employers could get out of the insurance business.

Where has the ACA failed and where has it been successful? The biggest negative about the ACA is that it did not seriously address and solve the problem of excessive cost. Health care in this country costs far too much. It is straining public finances at every level of government. A National Academy of Sciences report estimated that 30% to 40% of health care spending in this country is waste. There's also too much complexity. And with the exchanges, or "marketplaces," there's also a problem of gross mismanagement. I think the rollout of the exchanges was an obvious disaster. What I feared was that it was going to give a good idea — informed, conscious consumer choice ought to drive health care — a bad name. But fortunately, private companies were creating private exchanges and doing it on time, on budget, and making it work efficiently, without the big catastrophes. I was on the advisory board of one of the successful exchange startups.

Why didn't they reform the health care delivery system to get the costs under control? The "medical industrial complex" spent some \$1.3 billion in a year to lobby against it.

The main positive of the ACA is that everybody in this country should have affordable access to necessary health care. I think it's wrong to persist in a situation in which many families go broke because one of them gets sick or they go without adequate medical care. The ACA is a serious attempt to assure everyone access to health care coverage.

Alain Enthoven, the Stanford GSB's Marriner S. Eccles Professor of Public and Private Management, Emeritus, has published widely in the fields of the economics, organization, management, and public policy of health care in the U.S., U.K., and the Netherlands.

Photograph by Gabriela Hasbun

ALAIN ENTHOVEN
"Everybody should
get a subsidy" for
health insurance.



What will be the biggest hurdle moving forward? To get the costs under control and to get a good delivery system, we need reformed incentives, that is, competition among health plans and informed cost-conscious consumer choice of health care financing and the delivery system. The two biggest barriers to that are the government-supported bastions of open-ended fee-for-service: Medicare and employer-based health insurance, which is subsidized by a huge tax subsidy by the federal government. Health insurance is a part of employee compensation. The fact that it is excluded from the taxable incomes of employees without limit is costing the federal budget this year about \$250 billion. This tax break is an incentive to choose more costly health insurance. An extra \$100 of employer-sponsored health care costs about \$60 after tax. Employer-sponsored insurance has performed poorly. Most insured people are locked into inflationary open-ended fee-for-service. And try as they might, employers have not been able to stem the tide of rising health care costs.

What I recommended is to close the tax break and use the money instead to give everybody a fixed-dollar contribution toward the plan of their choice, and give them a range of choices.

We must also reform Medicare along the same lines. Interestingly enough, there have been several major bipartisan commissions recommending that. In Medicare, people should have a range of choices of competing plans. The government should establish payments on behalf of everybody, every Medicare beneficiary, which would be a fixed-dollar amount and which would pay most of the cost of Medicare, and introduce managed competition. Your plan gets more money if you are predictably sicker and more costly.

“The typical employer-paid health insurance costs far more than what people would buy with their own money.”

There are elements of managed competition in Medicare now. But still, the amount that the government pays is tied to fee-for-service costs. Instead, it ought to be tied to the costs of the lower-priced plans in the competition.

Will the U.S. ever completely break from workplace-sponsored plans? Thirty or 40 years ago, fee-for-service medicine was generally considered to be the hallmark of high quality. Then, gradually, after more research and thinking, people came around to realizing fee-for-service was so bad that now the secretary of the Department of Health and Human Services announced that she is going to change Medicare so 80% of it is not fee-for-service. The tax treatment of employer-sponsored health insurance might change. Right now, the tax break for employer-paid health insurance is costing the budget \$250 billion and costing the states another \$25 billion a year. That's really big money. For one or another reason, I think the tax break is likely to be either abolished or capped.

The ACA includes the so-called Cadillac tax. That is, the Affordable Care Act included an excise tax on the excess of health insurance plans that cost more than \$10,200 per individual and \$27,500 per family per year, starting in 2018. Some in Congress wanted to do that much earlier. But Obama conceded to demands from organized labor to postpone it until he was out of office. Now there's a political move by unions and employers to try to postpone or abolish that excise tax.

Even the main Republican alternative to Obamacare proposed a limit on tax-free employer contributions. It was much too high a limit. I think it ought to be set at the cost of an efficient plan, \$5,000 or \$6,000 per individual per year, \$20,000 per family per year, something like that. These are California numbers. It's probably less in less costly parts of the country. As in the case of Medicare payments to hospitals, the limits could be adjusted to account for regional differences in the cost of resources used in health care.

What's going to force action is when it becomes necessary to raise some revenue.

So is getting insurance out of employers' hands contingent on that tax break?

Another possibility is with the private exchanges. Private exchanges — like Aon Hewitt and Towers Watson — can go to an employer like Stanford and say, “If you would like to offer your employees choices,

then we can set that up for you. We have contracted with a number of big insurance companies. We'll give your employees a choice of Kaiser Permanente, Blue Cross, United, Aetna, two or three others. And we'll set up the process. We'll give them good information, let them consider the alternatives, and make a choice. And then you, Mr. Employer, just offer a fixed-dollar contribution at or below the low-price plan.”

Experience is already showing that the typical employer-paid health insurance costs far more than what people would buy with their own money, especially if it was after-tax dollars.

What can make ACA simpler? Get the IRS out of the business of setting the subsidy payments. That's a complicating factor. Somebody who has a low income, below four times the federal poverty line, says, “I need a subsidy.” He goes to the exchange. And the exchange says, “Well, first of all, we have to contact the IRS.” And let's say it's 2013, and you want to sign up for 2014. The exchange has to contact the IRS and find out what was your income in 2012, which is the most recent available number. There have been a lot of problems to do with that, including confidentiality problems. But they get that amount, and then they translate that into a projection of what your income will be in 2014 to determine how big your subsidy will be.

Then after 2014, they look back and say, “What was your actual income? How did it compare with what was estimated for you?” If you earned more than the estimate, then you have to give money back. If you earned less, then you get money.

Instead, everybody should get a fixed-dollar subsidy that would be included in each person's taxable income. The IRS would only get involved after the taxable year, as it always does, anyway.

I also have doubts that the employer mandate is needed. Most large employers are providing health insurance to their employees [already]. Congress was afraid if they didn't have the employer mandate, then employers would send their lower-paid people to the exchange for a government subsidy.

My point is everybody should get a subsidy. Employed people already do, though they may not know it. I would propose to pay for it by abolishing the tax break on employer health insurance contributions. The subsidies would be the same whether you're in or out of employment and in or out of the exchange. That could simplify the whole thing. ▲



SHUTTING DOWN COULD BE “SUICIDAL” A poster outside a southeast London hospital

MARKETS

Can Hospital Competition Save Lives?

Why market forces in health care are good for patient care

BY SUSAN H. GREENBERG

Undergoing even a relatively common hospital procedure — bypass surgery, say, or a hip replacement — is an exercise in trust. Patients want to believe that doctors are acting in their best interest, conferring expertise and compassion in the noble service of preserving their lives. Lying on the operating table, they are probably not thinking about how market forces have shaped the performance of their medical team.

They should be. A recent study co-authored by Nicholas Bloom and Stephan Seiler, professors at Stanford University, demonstrates that competition among hospitals significantly improves management and quality of care. “If you live in a remote area with only one hospital nearby, you should be worried,” says Bloom. “Without competition, what’s keeping it on its toes?” But if you live in the thick of town with a half-dozen hospitals nearby, “it means they’re competing for patients, and typically pretty good.”

Nicholas Bloom is a professor of economics at Stanford University and a codirector of the Productivity, Innovation, and Entrepreneurship Program at the National Bureau of Economic Research. Stephan Seiler is an assistant professor of marketing at Stanford GSB.

That's because competition has two key effects: It drives down prices, as Adam Smith proved long ago, and it makes people work harder and run their businesses more effectively. "Competition is good for reducing managerial laziness," says Seiler. "If you're competing with other hospitals, you actually have to be innovative and use good managerial practices." That benefits consumers in the most profound way possible: "People live longer," says Bloom.

The study, published earlier this year in the *Review of Economic Studies*, focuses on public hospitals in the United Kingdom, where the National Health Service (NHS) regulates prices and provides care for all, removing cost as a source of competition among hospitals.

"If you don't have prices, then the only thing you can really compete on is quality," says Seiler. The findings should apply not only to the many other nationalized health care systems around the world but also to heavily privatized markets like the United States, where the Affordable Care Act and veterans hospitals are making health care less and less "an industry fundamentally driven by profit maximization," says Bloom.

To conduct the study, the researchers — who also included Carol Propper from Imperial College Business School and

“If you’re competing with other hospitals, you actually have to be innovative and use good managerial practices.”

John Van Reenen from the London School of Economics — looked at counties in the United Kingdom featuring relatively large numbers of hospitals. Not coincidentally, these were also the counties with the most marginalized political constituencies; election records show that voters regularly punish any party whose government closes a hospital in their district, so regions where the three main parties are deeply embattled tend to have more hospitals than those where one carries a commanding majority. "Hospitals in the UK serve 50,000 to 100,000 patients each year, and a political constituency has about 70,000 voters," explains Bloom. "So if you close a hospital, you upset a lot of people — enough to actually swing that constituency. The central government is totally aware of this: It's suicidal." Indeed, the data showed that districts where the ruling party won or lost by less than 5 percentage points featured 20% more hospitals than those where one party clearly dominated.

Hospitals that faced more competition scored higher in both effective management practices and patient outcomes. Adding a single rival improved a hospital's management quality by 0.4 standard deviation from the mean, and increased heart attack survival rates by nearly 10%. Interviewers compiled management scores by conducting double-blind surveys of various hospital employees, rating their responses to such questions as, "How do you promote your employees?" and "Can you describe a patient's journey or flow for a typical episode?"

For each standard deviation increase in management score, hospitals saw a 6.2% decline in the mortality rate of emergency heart attack patients. Higher management survey scores correlated to lower staff turnover, shorter patient lengths of stay, shorter waiting times for procedures, lower rates of drug-resistant staph infection, better financial performance, and higher composite scores from health care regulators.

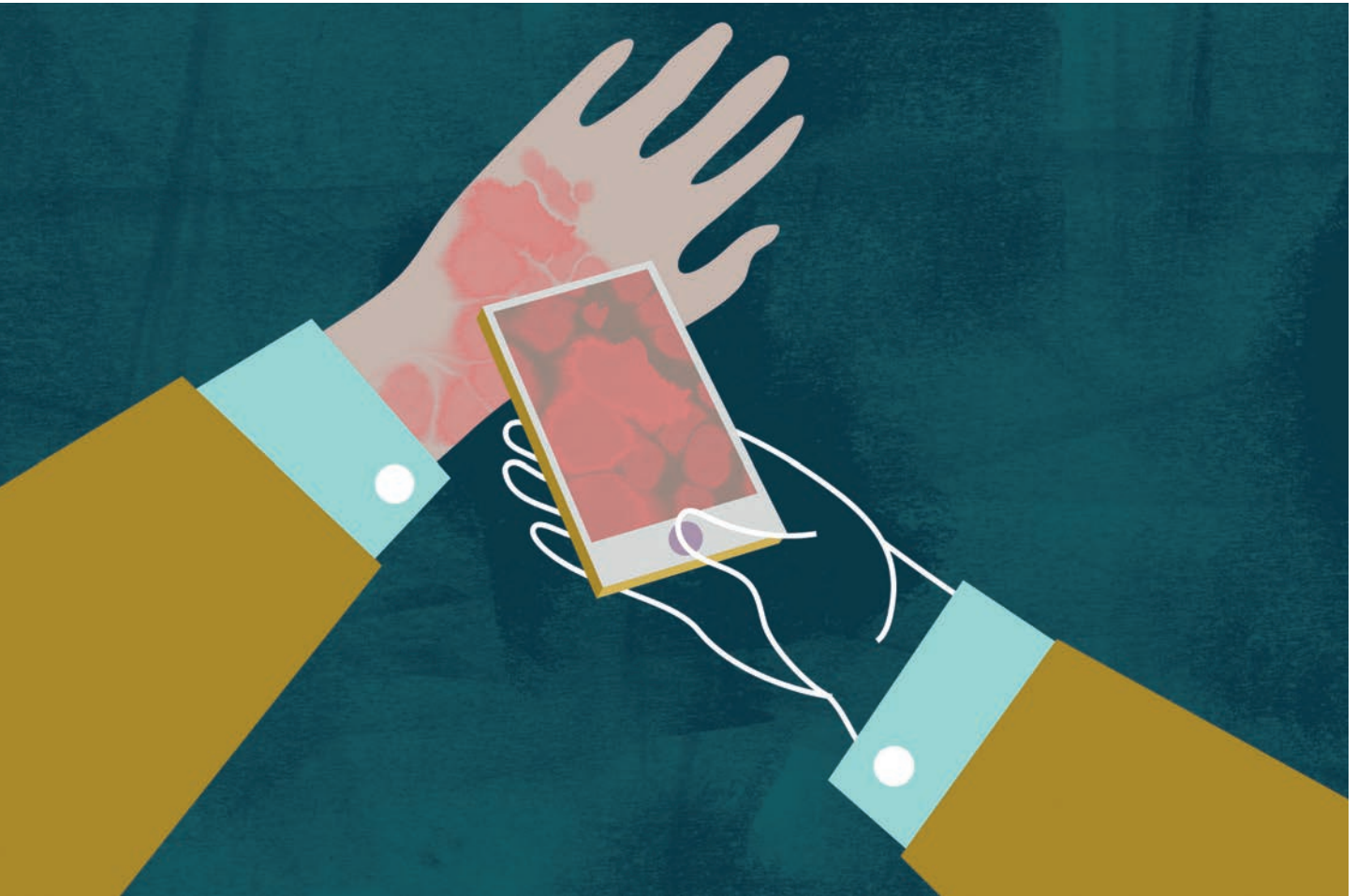
Even so, promoting competition among hospitals has been a hard sell. "Critics argue that you are bringing evil market forces into something that should be about people, not profit," says Bloom, a Brit who comes from a family of NHS doctors and who spent summers working for the NHS himself. "Most people, if asked 'Is competition good for health care?' would probably say, 'No,'" he continues. "In Europe, it would be 90 to 10, really strongly against it." One of his colleagues even got death threats for suggesting that competition would boost hospital performance.

Yet the policy implications are clear. "Governments should encourage market forces in health care, and health care plans should encourage consumers to shop around," says Bloom. That means preventing big mergers and reducing regulation, which can stifle competition by creating cumbersome barriers to market entry. And trade unions and professional organizations need to be closely monitored, since their motives are often at odds with improved efficiency, says Bloom: "Their job is to protect their members' interests; they're not there to fight for the patients." Consumers, for their part, need to keep pushing for choice and only go to hospitals that face competition.

Those rules hold true beyond health care. "It's not just in retail but in every sector we've looked at: Markets and competition matter," says Bloom. "They're useful for improving incentives and providing services." ▲

10%

Adding a single competitor to a community improved heart attack survival rates at a hospital by this amount.



INNOVATION

How to Transform American Health Care

Hospitals should adopt these business strategies.

BY ROBERT PEARL

The U.S. health care system is a model of inefficiency. It is by far the most expensive system in the world, consuming 17% of our gross domestic product. The results in terms of almost all quality measures, from life expectancy to childhood mortality, are in the lower half of the industrialized nations of the world.

American health care more closely resembles England in the preindustrial age than any other sector of the current U.S. economy. In the preindustrial era, people lived in and worked out of their own homes, disconnected from one another. Today, many physicians work in solo or small group offices. Merchants would travel the countryside to sell handmade goods

Robert Pearl is executive director and CEO of The Permanente Medical Group and president and CEO of the Mid-Atlantic Permanente Medical Group. At Stanford GSB, he teaches *Leading Strategic Change in the Health Care Industry*.

Illustration by Elin Svensson

on a piecemeal basis, analogous to fee-for-service medical practice with its “pay for piecework” reimbursement scheme. And although physicians today use computers for billing and claims, many still have not deployed fully functional electronic health record systems or connected them with their colleagues’ systems.

The inefficiencies of the U.S. health care system have created a pessimism best summarized in a sign I saw in a health services building. In bold letters it said, “Quality, service, cost,” and below, in smaller print, “Pick any two.” If we can catapult U.S. health care into the 21st century, we have the potential to achieve all three. A great place to start is by applying basic business principles to how health care is organized, financed, and delivered.

CONSOLIDATE SERVICES FOR BETTER QUALITY AND LOWER COSTS

There are about 5,700 hospitals in the United States — nearly one in every community. Most were constructed decades ago, at a time when transportation was more difficult and costly, and inpatient care was relatively inexpensive. Although advances in medical practice have shifted much of the care to outpatient venues and lowered the average number of hospitalized patients in each, few have closed.

Most of these institutions offer a full range of medical services — the same services offered by the hospital in the next town or even in the same community. As a result, the number of patients who receive a given service at any hospital is often quite small, the clinical teams inefficiently staffed, and the expertise of each individual less than optimal.

While competition is good for any industry, over-saturation is not. Cardiac surgery in Silicon Valley is a case in point. The region stretches approximately 50 miles from San Jose to San Francisco. Within its boundaries there are 14 hospitals that perform heart surgeries: two academic medical centers, two hospitals that are part of larger health systems, and 10 independent community hospitals. Some facilities are located as little as 1 mile apart.

While the operative procedures performed at these facilities are largely the same, their volumes and outcomes vary greatly. The two highest-volume facilities performed more than 1,000 cardiac surgeries each in 2012, the last year the state of California released its risk-adjusted data. The lowest-volume performed 100.

Not surprisingly, the lower-volume facilities averaged more risk-adjusted deaths. In contrast, the mortality rates for the two highest-volume facilities were about half the hospital average.

Why does quality get better with higher volume? When a hospital does one cardiac surgery a day on average, the physician and the surgical team have to be a “jack of all trades.” But as volume rises, sub-specialization becomes possible. Also, the more frequently a surgical team operates together, the better their communication and coordination and the fewer the opportunities for medical errors. In most areas of medicine, there is a threshold of required volume for optimal outcomes, and one procedure a day does not reach it.

Furthermore, fixed costs for cardiac surgeries are high, so running the service with a low volume becomes very inefficient. Regardless of how many surgeries are done per day, the on-call nurses, technicians, and other staff need to be paid. The operating rooms for these complex procedures are large, and expensive machinery and supplies need to be available. At centers with very low volume, staff, facilities, and equipment often sit idle and the cost per surgery rises as a result. With volume, the fixed costs are spread over more surgeries as those facilities reach economies of scale.

From a business perspective, the next step seems obvious — find a way to eliminate idle capacity by closing the cardiac surgery programs that do the fewest procedures. The volume in the remaining will increase, resulting in higher quality and lower costs for patients.

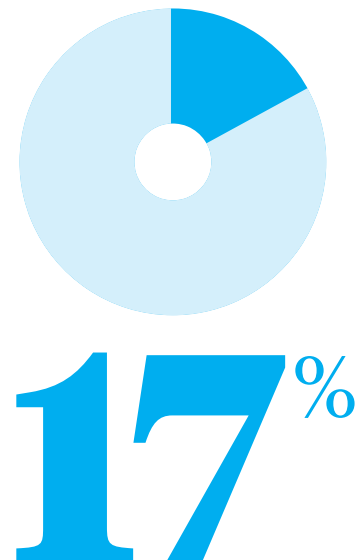
So why don’t these hospitals consolidate their cardiac surgical programs? Two reasons: from a revenue perspective, these cardiac surgical procedures are among the most profitable; and a cardiac surgery program often is an important part of a hospital’s brand, featuring prominently in its advertising.

Of course, it’s not just heart surgery. Better quality at lower cost could be achieved through consolidation for just about every major surgical procedure performed — from back surgery to hip replacement procedures.

In a competitive business world, no business could continue to operate with such low volumes and idle capacity. However, the market distortions in health care make it very difficult to remedy the situation — reimbursement schemes that are largely independent of outcomes; the “insurance effect,” which insulates end users from the true cost of inefficiency; and the lack of easily accessible information on the quality and appropriateness of care at different hospitals.

ELIMINATE THE PERVERSE FEE-FOR-SERVICE PAYMENT SYSTEM

Imagine you’re planning to remodel your kitchen. You hire a contractor and opt to defer entirely to her judgment on the kitchen’s aesthetics and the source of materials instead of requesting a competitive bid or choosing exactly what you want. You might predict that by the end of the remodel, the contractor would have billed more hours than you expected, marked up the cost of the materials used, and billed twice for construction errors.



How much the U.S. spends on health care as a percentage of GDP

EMBRACE TECHNOLOGY

Over the past decade, technology has been the greatest driver of improved performance in most industries. Health care remains the exception. Three opportunities to personalize and dramatically improve the quality of medical care are available.

The first is a comprehensive electronic health record, which connects physicians and hospitals across the community. Without having information at every point of contact, doctors can't provide the best medical care. Knowing the medications a patient takes, the preventive screenings a patient requires, and the tests other treating physicians have ordered optimizes the opportunity for the best outcomes and reduces costs associated with inefficiency and redundancy.

For a patient who comes to the Emergency Department on a Saturday night, one of the most important ways to determine whether he is having a heart attack is to compare a new electrocardiogram to the last one obtained to identify changes associated with an acute event. When this information is buried in a paper record in the primary care physician's office and unavailable to the emergency room physicians, they can only guess.

The second set of opportunities relate to mobile devices. For routine health care needs, most people drive to the doctor's office Monday to Friday between 9 a.m. and 5 p.m. For many clinical problems, the physician needs to do a physical examination or utilize hands-on interventions — but not always. Seventy percent of rashes can be accurately diagnosed and treated based on a digital photograph. And frequently a patient's problem can be solved by a physician familiar with him through a secure email or a video visit.

But in general, in the fee-for-service world, physicians don't get paid unless they see the patient in their office. As a result, this type of modern technology is significantly underutilized.

Finally, organizing and using the masses of data being captured to do predictive modeling holds great promise to move the practice of medicine from art to science. Predictive modeling will help physicians decide which patients in the hospital are likely to worsen and end up in the intensive care unit, so more aggressive treatment can be initiated prior to deterioration. And by comparing

That is how medical care in America works. The fee-for-service payment model reimburses physicians and hospitals based on the volume of services they perform, rather than the appropriateness of the services or the quality of outcomes they achieve.

Basic economic principles state that as supply goes up, costs should come down. But this tenet doesn't hold true in medical care, not when the supplier also controls — and has the ability to induce — demand, and bills on a “usual and customary” basis. In general, as the number of physicians in a particular specialty in a given geography increases, the volume and complexity of services and procedures rises in parallel, and the price per case remains the same or increases.

Consider back surgery. Some procedures are potentially very beneficial, particularly when there is nerve compression. But when pain is the main indication, non-operative treatments often prove as effective over time.

Surgery can be relatively simple or very complex. The latter involves expensive hardware and implants. For many patients, these more extensive procedures add little to the outcome. But where there are more surgeons — paid by the number and complexity of the procedure — there are not only more surgeries per capita, but also a higher percentage of complex interventions.

It does not have to be like this. There is almost universal agreement among policy experts of the need to move away from a fee-for-service payment model to a model of “pay for value,” incorporating measures of appropriateness of care as well as improvements in health status and health outcomes. There are a multitude of efforts in the public and private sectors now to test different versions, from bundling payments for the total cost of care related to an intervention, to paying a specified amount in advance to cover all of the health care needs of an entire population.

It remains to be seen how many of these new models experimenting with alternative payment schemes will be successful, and how soon.

Our current model reimburses physicians and hospitals based on the volume of services provided, not on the quality of the outcome.

information on a particular patient with data from thousands, or millions, of similarly situated patients, physicians know with much greater certainty the probability that this particular patient is having a heart attack or stroke, and the likely outcome of a specific intervention.

Once this information is collected in a fashion that can be aggregated and analyzed, it can be made immediately available to improve patient care.

MOVING INTO THE 21ST CENTURY

How health care is organized, reimbursed, and supported by technology offers are major opportunities to move American medical practice from a mid-to-late-20th-century paradigm into the 21st century. The fragmentation of medical practice, the fee-for-service system, and the lack of modern information technology contribute to the high cost and mediocre outcomes of the American health care system. The problem is not a lack of information on ways to improve, but the difficulties physicians and hospitals encounter in trying to bridge the “knowing-doing” gap.

The Affordable Care Act and HITECH (Health Information Technology for Economic and Clinical Health) Act provide a pathway, tools, and incentives for change, and time will tell how broadly they will be embraced. But regardless of how American health care achieves the results, applying basic business principles offers solutions to improve quality, make care more personal, and reduce costs. ▲

ANALYTICS

How Big Data Will Revolutionize the Medical Industry

BY LISA HOLTON

Big data — massive piles of personal digital information ripe for gathering, crunching, and transforming business models — has opened up opportunities that no one could have imagined a decade ago.

“Big data and analytics have opened the health care industry to people who haven’t come up through the science or clinical side,” says Robert Chess, a lecturer at Stanford GSB. “They see a whole new set of opportunities that can change how we use, shop for, and deliver health care services, and even how we develop new treatments and therapies.” The most valuable medical information within the big data revolution includes detailed databases on medical outcomes, costs, and usage in addition to personal medical records.

Chess, chairman of biotech drug development company Nektar Therapeutics, is a 1978 Caltech computer engineering graduate and a 1980 Harvard MBA who early on worked at Intel. As a former White House Fellow during the first Bush administration as well as a health care innovator, Chess points to a wide range of policy decisions that have pushed data gathering and analytics to the medical forefront. One of the most important was the American Recovery and Reinvestment Act of 2009, which set aside \$19 billion in grants and loans — equal to \$44,000 per physician — to adopt Electronic Health Record (EHR) technology by 2014. Today, Chess estimates some 80% of physicians and practices have made the transition.

Robert Chess, a Stanford GSB lecturer in management since 2004, is chairman of Nektar Therapeutics, a biopharmaceutical company; OPX Biotechnologies, a company in the renewable chemicals field; and Biota Technologies, a startup developing industrial applications of the analysis of microbial communities.

Illustration by Mark Smith

“When you mention health reform, most people think of the Affordable Care Act, which is primarily about insurance markets and funding,” Chess explains. “However, health reform over the past eight years has been a broader set of government policies and programs that have freed up hundreds of databases that will redefine health care measurement and quality of care.”

For researchers, entrepreneurs, and the public at large, there’s a huge opportunity for new businesses, products, and analytics that are changing the landscape, Chess says. Data is driving the following innovations being developed at a number of companies:

DOCTOR VISITS IN THE CLOUD

With a swipe of a handheld device, a physician can have not only direct patient consultation but also the patient’s full health history. Systems like these are enabling telemedicine — text, voice, and video-based case management — as never before, says Chess. “With access to full patient records and increased use of phone apps and wearables by patients for data gathering and home diagnostics, perhaps one third of doctors’ visits could be done remotely, which would be a huge step forward in convenience, access, and cost savings,” Chess says.

“The core of competitive markets in any industry is price transparency — the ability to easily access prices and comparison shop.”

USING PERSONAL DNA DATA TO DISCOVER NEW DRUGS

What if a consumer-friendly DNA testing service — such as those you see on ancestry shows — could do more than sort your family gene pool? What if it could provide genomic data to biopharmaceutical companies to find common traits across broad populations that could reveal disease and potential treatments? Though some industry observers have identified such practices as controversial, Chess points out that companies with access to extensive patient genetic data are starting to partner with pharmaceutical companies as well as developing their own drug development arms “to look at people’s disease patterns, link those patterns to genetic data, and better understand the root causes of disease. It’s a big data application for drug discovery.”

SHOPPING BY PRICE

“Most of us never consider price shopping for a medical procedure — we get a referral, check the doctor and the network, and that’s it,” says Chess. But that will change as intermediaries analyze massive amounts of employer benefits and claims data and extract prices of procedures at the individual doctor level. Fairly commoditized procedures like colonoscopies often vary in price by a factor of eight in a 30- to 40-mile range of providers, Chess says.

Chess adds that providing the ability to search qualified providers by price may lower the overall medical costs to employers and individuals in the future. “The core of competitive markets in any industry is price transparency — the ability to easily access prices and comparison shop. It traditionally has been very difficult to do that in medicine, but that is changing,” Chess explains. He points to a major West Coast supermarket chain that tested a pricing-by-provider technology now available and, combined with health benefits redesign and employee wellness programs, was “able to keep their costs flat for six years while the average employer’s increase was 8.5% a year,” for a total savings of \$300 million.

Consider location- and provider-based pricing algorithms that can be used with smartphones. These will create apps that can revolutionize real-time spending for pharmaceuticals and medical equipment as well. “This can save companies tens of millions a year,” says Chess.

BECOMING MORE PATIENT-CENTERED

Currently, the average physician in private practice needs 4.7 support people to administer care, split between clinical and clerical roles. Chess explains that data technology, together with process reengineering, is eventually going to squeeze a lot of that support staffing out of the system. “We’re moving from a provider-centric model to a patient-centric one. Because doctors will have more data at their fingertips, they’ll need less staff support and can spend more time one-on-one with patients.”

PREDICTING ILLNESS

Consider an algorithm that evaluates all aspects of your health-related behavior from doctor and pharmaceutical use to your particular exercise and eating routines. Chess says technologists already are working on programs that might be able to predict whether you’ll spend part of next year healthy or in the hospital, where the costliest form of health care is delivered. Predictive modeling, says Chess, will allow insurers, physicians, and wellness companies to develop intervention plans with patients. These developments will save not only money but lives.

Chess says the rapid changes should improve health outcomes in the United States. “The U.S. is a really good place to get cancer, but other than that, our outcomes are generally no better and oftentimes worse,” he says. To improve those numbers, it will take “reinvention and disruption,” driving an unprecedented payer and consumer revolution in health care, says Chess. “You’re going to see rising standards of care, more competition on price and quality, and more ability for patients to choose how, where, and when they manage their own health. All of that will put more power and control in the hands of patients, which is good.” ▲



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SUCCESSION

What Would You Do If the Boss Died?

Planning for the next day is essential.

BY DAVID F. LARCKER AND BRIAN TAYAN

When Jai Nagarkatti, CEO of Sigma-Aldrich, died of a heart attack in November 2010, his successor was announced the next day. Rakesh Sachdev, chief financial officer of the company, became CEO and at the same time was elected to the board of directors. By contrast, when Wendy's International CEO Gordon Teter died of a heart attack in December 1999, the company did not immediately name a successor. Instead, founder and director Dave Thomas was appointed to oversee a five-person management council that supervised the company's operations while the board searched for a permanent replacement. It was not until three months later that 25-year veteran John Schuessler, head of U.S. operations, was promoted to CEO.

There is no greater test of the viability of a company's succession plan than the sudden death of its CEO. Approximately seven CEOs of publicly traded companies die each year. A company with a well-developed succession plan maintains a list of potential candidates that the board can turn to in case of an unexpected transition. Look to Berkshire Hathaway, which announced in February that it had an internal candidate lined up to succeed its CEO, business visionary and octogenarian Warren Buffett.

For Berkshire and many companies, candidates are often internal executives who have been trained for higher levels of responsibility and whose skills, experiences, and leadership qualities match the strategic, operating, and cultural requirements of the company. In some situations, primary candidates are executives at other companies that the board has maintained contact with and whom the board is prepared to approach when a transition is required. If the circumstances are appropriate,

a permanent successor is named without delay. In some cases (such as a company in turnaround or one that is in the process of building managerial talent), an emergency CEO takes over until a permanent successor is identified.

A company without an operational succession plan does not have a set of viable candidates to turn to and often starts the evaluation process from scratch. In this case, the transition period can be lengthy, lasting several months or longer. These delays can have a direct, negative impact on company performance. Research shows a negative relation between the length of the succession period and the future operating results of a company. For this reason, many governance experts recommend that companies treat succession planning as a risk management exercise as much as a leadership development process.

A company might be able to reduce the uncertainty surrounding CEO succession by increasing disclosure around its succession plan. However, there is little evidence that shareholders find this disclosure valuable. According to Institutional Shareholder Services, shareholder-sponsored proposals that would require companies to develop and disclose succession plans received only 27% support on average in 2011. This suggests that, while investors expect companies to develop succession plans, disclosure might not be informative of whether these plans are viable.

The sudden death of a CEO also offers an (unfortunate) opportunity to provide insight into the general quality of the firm's governance. When a CEO passes away, two distinct events occur. The first is the announcement of the death itself. The second is the announcement of the

successor. The price of a company tends to go down following news of a CEO's death if the CEO was seen as a strong leader or vital to the company, and it tends to go up if the CEO was seen as entrenched, a poor leader, or inhibiting a sale of the company. In this way, a positive stock price reaction implies the presence of poor corporate governance, while a negative stock price reaction implies good governance.

The case is reversed for the announcement of the successor. A positive stock price reaction suggests that shareholders believe the board of directors has made the right hiring decision for the company, while a negative reaction suggests that shareholders disapprove of the board's selection or that the hiring decision makes it less likely that the company will be sold.

For example, when Gerald Pencer, CEO of Cott Corp., died of cancer in 1998, the stock price increased 8.1%. Pencer and his family owned a 29% stake in Cott, and his death was seen as a catalyst that would accelerate changes or possibly lead to a sale of the company. When former Campbell Soup executive Frank Weise was named CEO of Cott five months later, the stock rose 6.5%. The appointment of Weise, announced concurrently with a \$110 million investment from private-equity firm Thomas H. Lee, was viewed as a commitment to boost growth, with the potential for a sale of the company down the road.

Although CEO deaths are rare, they can provide insight into the quality of succession planning and governance of a company. Boards should do a "reality check" on whether they truly have an operational succession plan in place. Worth considering is whether you look internally or externally for candidates. External searches take considerably longer (four to six months) than internal searches. Also important is whether you revise the succession plan if your CEO engages in risky hobbies like flying airplanes or racing motorcycles — or risky habits like smoking or excessive drinking.

Succession planning is a fundamental component of risk management and can translate directly into future shareholder value. If you had to name someone immediately, could you? ▲

David F. Larcker is the James Irvin Miller Professor of Accounting at Stanford GSB, where Brian Tayan is a researcher. Learn more at <http://stanford.io/CloserLook>





BIPARTISANSHIP? John Boehner and Nancy Pelosi during the opening session of the 114th Congress

DEMOCRACY

How Gridlock and Bureaucrats Can Actually Improve U.S. Government

Research shows that Washington works better than you might think.

BY EDMUND L. ANDREWS

In polls, more than half of Americans disapproved of President Barack Obama and about 80% disapproved of Congress. Americans are angry about partisan gridlock, but they also harbor mistrust about nonpartisan bureaucrats. But Steven Callander and Keith Krehbiel, professors of political economy at Stanford GSB, see it differently. In a recent paper, they apply game theory to understanding U.S.-style gridlock. Their conclusion: Two of the system's most unpopular features — supermajority voting (as in the Senate filibuster) and delegation of authority to “unelected bureaucrats” — can together produce good outcomes.

Callander, born and raised in Australia, argues that the U.S. system is shrewder than most Americans give it credit for.

Here, he answers questions in an interview edited for length and clarity.

Haven't filibusters and other forms of supermajority voting been the main reason for paralysis in Washington?

A good way to think about it is that the U.S. system, from the Founders onward, was designed to not do very much. The basis of the separation of powers itself was designed to restrain the ambitions of the individual actors. It's a system that avoids a lot of bad things from happening because no individual has enough power to make big changes. The downside is that a lot of good things are also prevented from happening.

At the same time, we delegate a lot of authority to agencies of unelected officials. That doesn't seem very democratic either. But there is a logic to this design, a logic to why elected politicians, who want to do things that voters want and get re-elected, might want to delegate authority.

We show that the delegation of authority has evolved over time to solve the challenge of "political drift."

What is political drift, and how does it relate to this? Political drift is simply a feature of the world: The world is changing, so the effectiveness of policies today will change tomorrow. One example is the tax break for "carried interest," which was originally created to help small business people and real estate developers. But it has ended up serving the private equity industry and allows some of the nation's most highly paid executives to avoid paying the normal tax rate. That's an example of the world changing: The rise of the private equity industry has led to unintended consequences for this tax policy that are very different from what lawmakers originally had in mind.

Why does it help to delegate authority to unelected bureaucrats? Politicians have an incentive to smooth the outcome of policies over time to avoid unintended consequences when the world changes — they recognize that political drift may well cause the same law to produce very

different results in the future. So while politicians today might disagree about whether the top tax rate should be 39% or 33%, they can agree on wanting to smooth the impact of taxes over time as the economy rises and falls.

Enforcing this kind of deal is very difficult for politicians on their own. They are not allowed to write contracts, and they are not allowed to bind the hands of future Congresses. They can't tell the senators in five years' time what they have to do.

Delegating authority to an agency, a group of bureaucrats, creates a way [to adjust policy in response to change so that the results still reflect the politicians' original goals].

In our view of delegation, Congress is not abdicating its authority to unelected bureaucrats who can then run amok. The idea is that these people can implement policy in a way to keep getting the results that Congress projected or estimated that it wants. As a result, delegation allows elected leaders to strike deals that they would otherwise not strike.

If the system is so well designed, why are Americans so frustrated? Regardless of what kind of system you have, there is going to be frustration. Politics is about disagreements, and these disagreements exist everywhere. They exist in the U.S., they exist in Australia. They exist in Europe and Latin America.

The U.S. system has more separation of powers and more gridlock than any other system, so it's natural that people are frustrated — more than frustrated. But the system itself can evolve and develop. Members of these institutions have come up with new systems, new instruments like the delegation of authority. When problems arise, we now have a self-correcting mechanism to overcome a limitation of the separation of powers system. This is something the Founders never anticipated, and it has helped.

So your message to Americans is that things aren't as bad as they seem? Yes. We understand the system doesn't work perfectly, but we are saying that delegation can make things better by solving some of the problems caused by gridlock.

“The U.S. system has more separation of powers and more gridlock than any other system, so it's natural that people are frustrated.”

Would the nation have been better off if it had not developed this combination of political gridlock and delegation to independent agencies? It's hard to tell, but we can say that the U.S. has turned out very well. This country is very rich, very prosperous and healthy. Things have worked out very well with this separation of powers and this system that does not do very much.

Should political reformers take your findings as a reason for caution?

Obviously, there are reform efforts, and we would like to help. But it's hard to reform a system if you don't understand how it works. There is no end of well-intentioned reformers around the world who have changed political systems in the hope of getting better outcomes, but who, because of the curse of unintended consequences, produced outcomes that were worse than what they had before.

We're not saying that reform might not improve things. But it's important to understand why the system works the way it does. It's not as bad as it seems. ▲

Steven Callander is a professor of political economy at Stanford GSB. Keith Krehbiel is the Edward B. Rust Professor of Political Science at Stanford GSB.

TEMPTATIONS

Tapping a Moral Philosopher to Solve a Money Manager's Dilemma

A scholar explores how to juggle the needs of diverse clients amid great uncertainty.

BY EDMUND L. ANDREWS

On one level, it is a highly technical solution to a narrow-bore problem in modern portfolio management. On another level, it's a problem that has preoccupied social philosophers for centuries: How do we balance fairness to individuals with the goal of doing what's best for society as a whole? Perhaps it's no surprise, then, that Dan Iancu of Stanford GSB has tapped into the theories of a renowned philosopher of social justice — the late John Rawls.

Iancu, an assistant professor of operations, information, and technology, studies complex problems that involve juggling the needs of multiple players amid conditions of uncertainty and risk. Much of this falls under the rubric of “dynamic optimization.” How can companies minimize risk in supply chains with many levels of contractors and subcontractors? How do you avoid perverse incentives in financial covenants for retailers who borrow money to finance their inventories?

In a paper, Iancu and Nikolaos Trichakis at Harvard Business School tackle a practical ethical dilemma that many money managers face when carrying out trades for multiple portfolios with different goals.

Though investors aren't usually aware of it, portfolio managers frequently bundle the trades from multiple clients to improve efficiency. The problem is how to allocate

the transaction costs. Suppose that one client wants to immediately buy 10,000 shares of Walmart, while a second client wants to buy only 10 shares and is willing to be patient. If that big order moves the market and drives up the price of Walmart shares, the small investor may have to pay a higher price than if her purchase had been carried out at a more leisurely pace. The second investor could lose the price benefit that comes from being patient.

What is the fair thing to do? The standard approach right now is to bundle the trades together and then allocate the costs based on each client's share of the total trade. It seems fair because the portfolio manager is aiming to maximize profits for the group of investors as a whole. In practice, however, it may be unnecessarily costly to individual clients.

To figure out a solution, Iancu and Trichakis devised a model of portfolio management that allows the manager to choose between a blend of two different ethical approaches.

The first approach is to maximize the good of the whole group. In social terms, it's what utilitarian philosophers would describe as seeking the greatest good for the greatest number of people. For a portfolio manager, it means maximizing the total returns for the whole group.

The problem is that maximizing the group's total “happiness” may not be fair to the individuals. Imagine two clients, a big investor and a small one, who both are interested in buying shares of Target and Walmart.

The quickest way to maximize total happiness might well be to carry out all the orders on the spot, because that would make the one big investor extremely happy. But that could easily be unfair to the small investor, who could face a higher stock price as a result of being lumped in with the whale-size buyer.

The alternative approach is to focus on fairness. This is where John Rawls comes in. As the author of major works on social and political ethics, including his seminal *A Theory of Justice*, Rawls argued that the best approach was to focus on delivering the most possible happiness to those who were worst off.

For the two clients who both want shares of Walmart and Target, a “fairness” approach could be to have the small investor buy Target while the big investor buys Walmart. That would prevent overlap between the two and protect the small investor from being big-footed.

In short, Iancu and Trichakis devised a model for portfolio management that allows a manager to blend the “greatest good” approach and the “fairness” approach. They then ran computer simulations with hypothetical portfolios to test the extreme versions of each approach against the other.

The big surprise: The Rawlsian approach was not only fairer to the small investor, but also almost as efficient and beneficial for the big investor. In the case of the Walmart and Target investors, the small investor was protected and the disadvantages to the big investor were very small.

Iancu and Trichakis don't have a simple intuitive explanation for these results. They also caution that they aren't advocating a pure Rawlsian approach. Their model is open to all manner of combinations between maximizing fairness and maximizing social welfare. But economists usually assume there is a natural conflict between maximizing fairness and maximizing total returns. It turns out, says Iancu, that at least in this particular financial problem, the trade-off isn't that large after all. ▲

Dan Iancu is an assistant professor of operations, information, and technology at Stanford GSB.





KAT TAYLOR On her 2,000-acre Pescadero ranch, with ranch manager Jeremiah Stent

COMPLEXITY

The Path to a More Sustainable Future

A businesswoman looks to solve problems in finance and food.

BY DEBORAH PETERSEN

Kat Taylor sums up the focus of her philanthropic efforts in six words: Good food. Good money. Good energy. That's why over the last decade, she and her husband, Tom Steyer, have built a sustainable ranch, opened a bank that is mandated to contribute to social justice and the environment, and established an organization "to inspire U.S. politicians to achieve climate stability while restoring prosperity."

Steyer, the founder and senior managing member of Farallon Capital Management, retired at the end of 2012. He now spends his time as an energy advocate, focusing mostly on the "good energy" side of the equation. In 2013, he formed NextGen Climate, an organization that "acts politically to prevent climate disaster and promote prosperity for all Americans."

Taylor is co-CEO — and she and her husband are co-chairs — of Beneficial State Bank, which they founded together in 2007. She devotes most of her time to sustainable agriculture and responsible banking. “Finance matters more to society than society realizes,” she says.

Taylor stood out recently as a panelist at a Finance & Society Conference in Washington, D.C., organized by Anat Admati, a Stanford GSB finance professor. Admati, an author and critic of ineffective banking regulations, says Taylor brings a more nuanced approach than do central bankers and macroeconomists, who often lump all “credit” together and don’t make distinctions between the different kinds of loans that banks and other institutions make. “Kat brought a unique perspective to this panel because she is thoughtful about the broad context of the decisions that banks make and more aware of the full set of stakeholders involved,” says Admati.

Stanford Business caught up with Taylor after the conference to discuss philanthropy, banking, and sustainable farming.

MULTI-PRONGED APPROACH

If Taylor’s brand of philanthropy looks less like charity and more like commerce and politics, that’s on purpose. Her charitable giving spans more than two decades; at first she concentrated on education and cultural causes, donating money directly to organizations. But philanthropy alone, she says, cannot put a dent in the world’s problems unless it’s somehow connected to business and the social compact — and to society’s main institutions.

Over the last decade, she and Steyer, both MBAs from Stanford GSB, have picked three areas to focus on: climate, finance, food. And instead of just writing checks, they have created working entities within the three sectors, not only to bring change but to learn more by doing. “We live in these terribly complex, interconnected times. There’s not going to be a silver bullet or single-dimensional approach,” Taylor says.

BANKS AS CROWDFUNDERS

One of those entities — the bank they founded, which has offices in California, Oregon, and Washington — may seem inconsistent with charitable giving, especially considering the role big banks played in the 2008 financial crisis.

But Taylor sees the leverage that the bank business model affords — when it’s done right — as a way to help society. It’s the ultimate form of “crowdfunding,” she says, because depositors can vote with their money by deciding which banks to use.

Financial institutions, of course, cannot survey all of their borrowers to learn how they want their money invested, but depositors can have influence, she says, by directing their money to banks that align with their values.

Their bank services organizations and companies that are “creating the new economy — one that is fully inclusive, racially just, and environmentally sound.” Any profit, when distributed, is funneled back to the bank’s foundation, which is mandated to invest it in the community and environmental causes.

With just over \$500 million in assets, Taylor jokes that the bank is a “gnat” compared with traditional banks, some of which measure their asset size beyond a trillion dollars. Community banks, she says, could benefit from more consolidation, noting that one way the 111 community banks in the United States might be able to make a dent in the profits of traditional banks is to hit them where it hurts — credit-card fees. That’s why her bank offers a credit card associated with the likes of the Sierra Club and other causes to give cardholders an alternative to credit cards that are aligned with for-profit businesses.

WHY FINANCE MATTERS

Taylor is trying to address the wider systemic problems in the financial sector too. She argues that conventional banks are relying too heavily on tools like FICO scores, which divide borrowers into broad categories that are not particularly predictive of ability or willingness to repay.

Beneficial State Bank has not eliminated the use of FICO scores but it layers on what she says are more “effective and fair” algorithms. Taylor works with a company that uses detailed analytics to incentivize good borrower behavior and migrate pre-prime borrowers to even better rates and terms.

Once the bank issues them loans, the borrowers are given an opportunity to reduce their interest rates even further when they hit certain milestones, such as making payments on time or taking a class in financial literacy. “The payday model is

profitable at the expense of borrowers,” she says, referring to short-term, no-collateral loans that typically carry extremely high application fees and interest rates. “Our joint model is profitable because it creates value for all parties — greater financial health and choices for the customers and a new pool of customers for the bank.”

WHY FOOD?

Like banking, which impacts a large sector of society, food production is related to a wide and inter-related network of issues, such as energy, human health, and the environment. “Food is something that affects everyone, and we can address a lot of systemic problems through the food lens,” Taylor says.

The 2,000-acre TomKat ranch in Pescadero, Calif., that she owns with Steyer is meant to be a living testing ground for sustainable ranching. The ranch uses sustainable management practices to raise fully grass-fed beef and pasture-raised eggs. The migration of the cattle and other domestic animals there is monitored to assure that the grasslands and coastal brush dominating the landscape of the ranch’s hills and valleys are not depleted. Quite the opposite — through planned grazing, invasive plant species are reduced and the presence of perennial grasses that cut down on soil erosion, retain water, and improve the carbon content and fertility of the soil is increased.

The results are being tracked and evaluated in an effort to create a scientific database of proof that the methods work. Many of the practices are built on the intricate symbiotic partnership of the animals on the ranch, which range from cattle to crickets. The quality of the soil has improved since the ranch reintroduced this form of animal agriculture in 2006, along with diversity of the plants and wildlife, Taylor says.

The more they work from this system-wide approach, the more they realize that it is the right approach to making change, Taylor says. “Both of us feel like our generation has enormous responsibility, just as we have benefited from prior generations.” ▲

Kat Taylor received her MBA from Stanford GSB in 1986. Tom Steyer received his in 1983.

COMPENSATION

How Voters Can Beat Special Interest Groups

Protests and political competition help. So do elected officials' salaries.

BY IAN CHIPMAN

Renee Bowen and Cecilia Hyunjung Mo have been thinking about a big question: “When do voters win?” It’s not as abstract as it might seem. What Bowen, a professor of economics at Stanford GSB, and Mo, a professor of political science at Vanderbilt University, are really asking is how does a citizen, armed with only a vote, compete with the carefully calibrated campaign contributions of deep-pocketed lobbyists and special-interest groups.

In a working paper, the researchers studied a set of linked elements that can contribute to a climate where politicians set policies that favor voters over corporations.

One of their most surprising findings: It turns out we might be shooting ourselves in the foot by not paying our elected officials more.

Renee Bowen is an assistant professor of economics at Stanford GSB, where she teaches *The International Economy: Policies and Theory*. Her current research examines characteristics of dynamic political institutions that yield compromise.

Photograph by Drew Kelly

RENEE BOWEN
"Why wouldn't
[a democracy]
perfectly
represent the
interests
of the voters?"



THE BLUNT TOOL

The idea for the study came out of Bowen's longtime interest in exploring what role governments play in economies and, more specifically, how special interests can commandeer democracies — often at the expense of voters. She points to the example of the Occupy movement that began in 2011 and protested against economic inequality. The movement called attention to the issue of a tiny minority — in this case, the country's wealthiest 1% — wielding disproportionately outsized influence on policy. Bowen was curious to know what could help reassign influence back to the 99%.

"Democracies have lots of great qualities — they're representative, they encourage entrepreneurship — but there's clear evidence that some democracies work better than others," Bowen says. Policies can be influenced by groups of people, which makes sense as democracy is supposed to be representative. "But sometimes that leads to outcomes where the democracy is captured by interests that go against growth."

It is this self-defeating nature of democracies that Bowen wants to understand. "Why wouldn't [a democracy] perfectly represent the interests of the voters? On the one hand, you have these coalitions that are very active in lobbying and directing policy for their self-interest," Bowen says. "Whereas the voters, you and I sitting in our house, when we go to the polls, the only thing we have is that vote."

This yes-or-no nature of a vote is why Bowen calls it a "blunt tool," relative to the scalpel available to special-interest groups and lobbyists. In other words, while corporations can fine-tune their influence on policy — through contributions, influence, or even outright corruption — the only lever available to voters to sway policy in their favor is the vote.

Still, while the tools are fundamentally mismatched, the good news is that "the vote is a pretty big blunt tool," Bowen says.

THE POWER OF THE VOTE

What the researchers sought was a simple model to capture the tension between voters and firms and to understand what influences a democracy's ability to produce policies that benefit voters.

To do so, they analyzed state-level data dating back to 1950 to look at how different variables — including office-holding benefits, political competition, and activism — affected two sample policies. These two policies were the ratio of taxes collected from income to taxes collected from corporations and the minimum wage. Both policies naturally pit voters and corporations against each other on opposite ends of a spectrum. The role of the politician (played by governors in the model) is to create policy somewhere between the ideal positions of voters and firms, ensuring electoral victory while maximizing contributions.

In both policy cases, the researchers found that increasing overall political competition (which, in our political system, boils down to having more electable candidates vying for both votes and contributions) shifted policy in favor of the voters. In addition, the researchers found evidence to support the notion that increased activities including boycotts and protests led to policies that favored voters.

The factor that influenced policy in favor of voters the most, however, was increasing office-holding benefits, as measured by governor salary relative to state income per capita. As governor salary increased, the researchers found, the voter share of the tax burden decreased while minimum wage increased. It's important to note that the relationship is correlational and not necessarily causal, but a \$10,000 increase in governor salary was associated with a 0.18 decline in voter tax burden relative to the corporate tax burden and a \$0.06 increase in minimum wage.

In short, their findings show that the more a politician values being in office, the more she cares about the vote and the more she's going to skew policy in favor of voters and away from special-interest groups. Therefore, while the voter can only vote or not vote, that vote becomes more powerful as the attractiveness of being in office grows. "It's one of those things that's surprising when you first discover it," says Bowen, "but after you think about it a bit more, it makes perfect sense."

“Democracies have lots of great qualities. But there’s clear evidence that some of them work better than others.”

PAY MORE, EXPECT MORE

Despite roaring debates over income inequality and stagnating wages, the issue of whether we're paying our elected officials the optimal amount of money hasn't faced much scrutiny under the microscope of public discourse.

Bowen says that we tend not to regard our elected officials like other individuals — who when expected to perform better, get compensated better. "Yes, they're public servants, but they respond to incentives in exactly the same way as any other employee does," she says. "They're our employees, and we should treat them like employees and incentivize them appropriately."

Indeed, the results of Bowen's study suggest that boosting office-holding benefits — which can include other less-definable elements like prestige in addition to salary — is a powerful mechanism for swinging the pendulum of influence back toward the voters and away from special interests.

Thus, "there's very clear evidence that you have to think about the salary of politicians, but so far that hasn't been part of the political discourse," Bowen says. "It's almost a dirty thing to say we're going to pay politicians more to enact better policy. But the vote is a very real and very valuable tool." If voters aren't using it to the best of their ability, she adds, we're only hurting ourselves. ▲

World



“Sometimes we,
in the developed economies,
can learn from what

organizations in developing economies

do with limited resources.”
—Stefanos A. Zenios PAGE 54

DEMOGRAPHY

What Is Happening to Cities in America?

Research shows they are increasingly segregated by education.

BY CLIFTON B. PARKER

America's cities are dividing themselves into two distinct groups, with college-educated workers increasingly clustering in desirable places that less-educated people cannot afford, according to new Stanford research. In a paper, Rebecca Diamond, an assistant professor of economics at Stanford GSB, found that economic well-being inequality in American metropolitan areas increased 67% from 1980 to 2000, primarily due to changes in wages, housing costs and local amenities. This is even greater than the 50% rise in the difference between wages for high school and college graduates in U.S. cities. "High-skill workers value communities where the amenities are considerable," Diamond says in an interview. "The non-college-educated value these areas, but they cannot afford the housing."

Rebecca Diamond is an assistant professor of economics at Stanford GSB where she teaches *Data and Decisions*. Her current research studies the causes and consequence of segregation of households by income and education level across neighborhoods and labor markets.

Photograph by Amy Harrity

REBECCA DIAMOND
Analyzing the rise
in inequality



In the 19th century, people valued American cities for their importance as production hubs of manufacturing and wealth.

Economic well-being, Diamond says, is defined as the consumption of consumer choices such as shopping and housing, as well as amenities such as a community's crime rate, school system, and weather.

Diamond explains that the rise in economic inequality is due to different cities having different labor demands in the last 30 years. This led to either an increase or a decline in the percentage of college graduates among the city's workers — which in turn led to either more or fewer amenities.

Diamond conducted the research while she was a postdoctoral fellow at the Stanford Institute for Economic Policy Research from 2013 to 2014 and during her doctoral studies at Harvard University from 2008 to 2013. She used U.S. Census data from 1980, 1990, and 2000 on a wide range of economic and demographic items.

Her analysis included 218 metropolitan areas in the United States and was restricted to people 25 to 55 years old who worked at least 35 hours per week.

WAGE INEQUALITY UNDERSTATES GAP

In the past few decades, college-educated workers have enjoyed significant increases in earnings relative to those with less education, according to Diamond. In 1980, the typical college graduate earned 38% more than the average high school graduate. By 2000, that had increased to 57%, and by 2011 to 73%.

This wage gap has rippled across American cities. From about 1980 to 2000, cities that initially had a large share of college graduates (Boston and Atlanta, for example) increasingly attracted larger numbers of them, while cities with less-educated workers (Albany, N.Y., and Harrisburg, Pa.) gained fewer graduates.

Do the large increases in wage inequality over the past three decades point to a similar increase in economic well-being inequality? The answer is yes, Diamond says. "In fact, the increase in wage inequality understates the true increase in economic well-being inequality."

The reason is that high-skill cities also offer residents more amenities for quality living — entertainment, educational opportunities, better air quality, and lower crime rates. The higher housing costs do not fully dilute the real amount of consumption that college workers derive from their high wages, she says. "If the economic value of living in a high-amenity city more than

compensates college graduates for the high housing prices, the growth in wage inequality would understate the increase in economic well-being inequality," Diamond writes. "High-skill cities not only appear to offer the highest wages, but also a better quality of life."

Workers' available choices in where to live are strongly related to the trajectory of wages and housing costs in cities, according to the research. From 1980 to 2000, for every 1% increase in a city's ratio of college graduates to non-graduates, the city witnessed a 0.6% hike in rents.

In 2013 in San Francisco the median price for a studio apartment was \$863,000. But in Las Vegas, the median price for a four-bedroom house was only \$220,100.

CAUSES OF ECONOMIC SEGREGATION

The labor demands of different industries across America's city landscape changed from 1980 to 2000, Diamond writes. As a result, industries adjusted their hiring needs for college or non-college workers. Computer and technology sectors hired more educated workers, for example. And the old industrial cities that most aggressively shifted their focus to information technology were the cities that experienced the largest increases in the hiring of college graduates. "The hiring demands of cities' local industries played a large role in attracting high- and low-skill workers to different cities, causing the divergence of skill across space," Diamond writes.

In the 19th century, Diamond says, people valued American cities for their importance as production hubs of manufacturing and wealth. Today, the more educated the worker, the more he or

she is interested in the quality of life and the choices in the amenities a city has to offer. Increasing a city's share of college graduates boosts the likelihood that a city will have a greater quality of life — more shopping choices, better schools and restaurants, for example — and the reverse is true as well.

Consider the changing fortunes of Detroit and Boston, Diamond writes. In the early 20th century, Detroit had a booming auto manufacturing industry and a model public educational system. But by 2009, Detroit's public schools had the nation's lowest math proficiency scores.

On the other hand, Boston's public school system was dismal in the 1970s, but in subsequent decades the city focused on building itself up as a beacon for technology, biotech, and medical firms. The result? More high-paying jobs, more college workers and a school district that in 2006 won a national award (the Broad Prize) for being the most improved. "The prosperity of Boston and the decline of Detroit go beyond jobs and wages, directly impacting the amenities and quality of life in these areas," Diamond writes.

In contrast to Detroit, Pittsburgh has made a relatively successful transition from being a manufacturing hub in the 19th and 20th centuries to a city now known for its low housing costs, solid base in amenities, and growing economy, according to Diamond. When the steel industry faded, the city's educational and health care institutions provided a strong foundation for this next chapter.

Diamond says that college-educated workers place a greater emphasis on amenities in choosing which metropolitan area to live in, while non-college-educated workers look for affordability. Of course, everyone prefers higher wages, lower rents, and better amenities in living places, but that is an extremely rare combination.

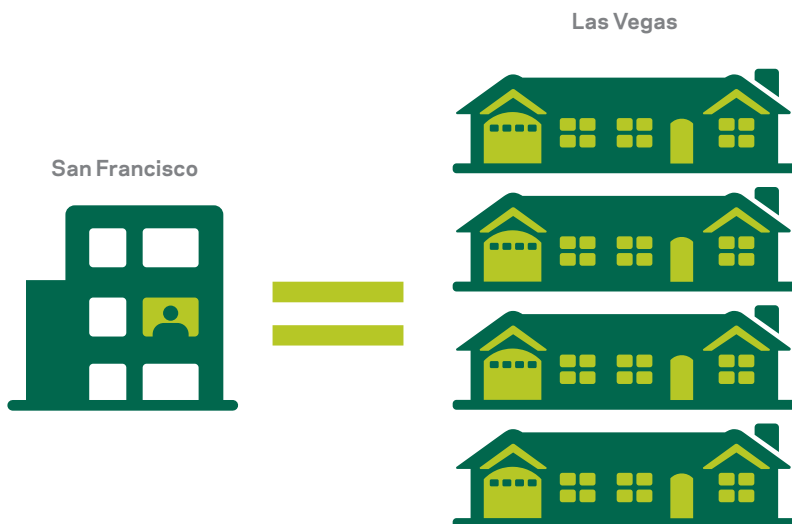
She notes that college graduates in New York City are willing to pay much higher housing prices than they would in Cleveland because of the many amenities available in New York. Nationwide, "changes in wages, housing costs, and local amenities from 1980 to 2000 led to an increase in economic well-being inequality of at least 67%," Diamond says.

The outcome is a nationwide gentrification effect, she says. Lower-skill workers are unable to gain access to the best cities, which puts them in the more affordable but lower-amenity metropolitan areas.

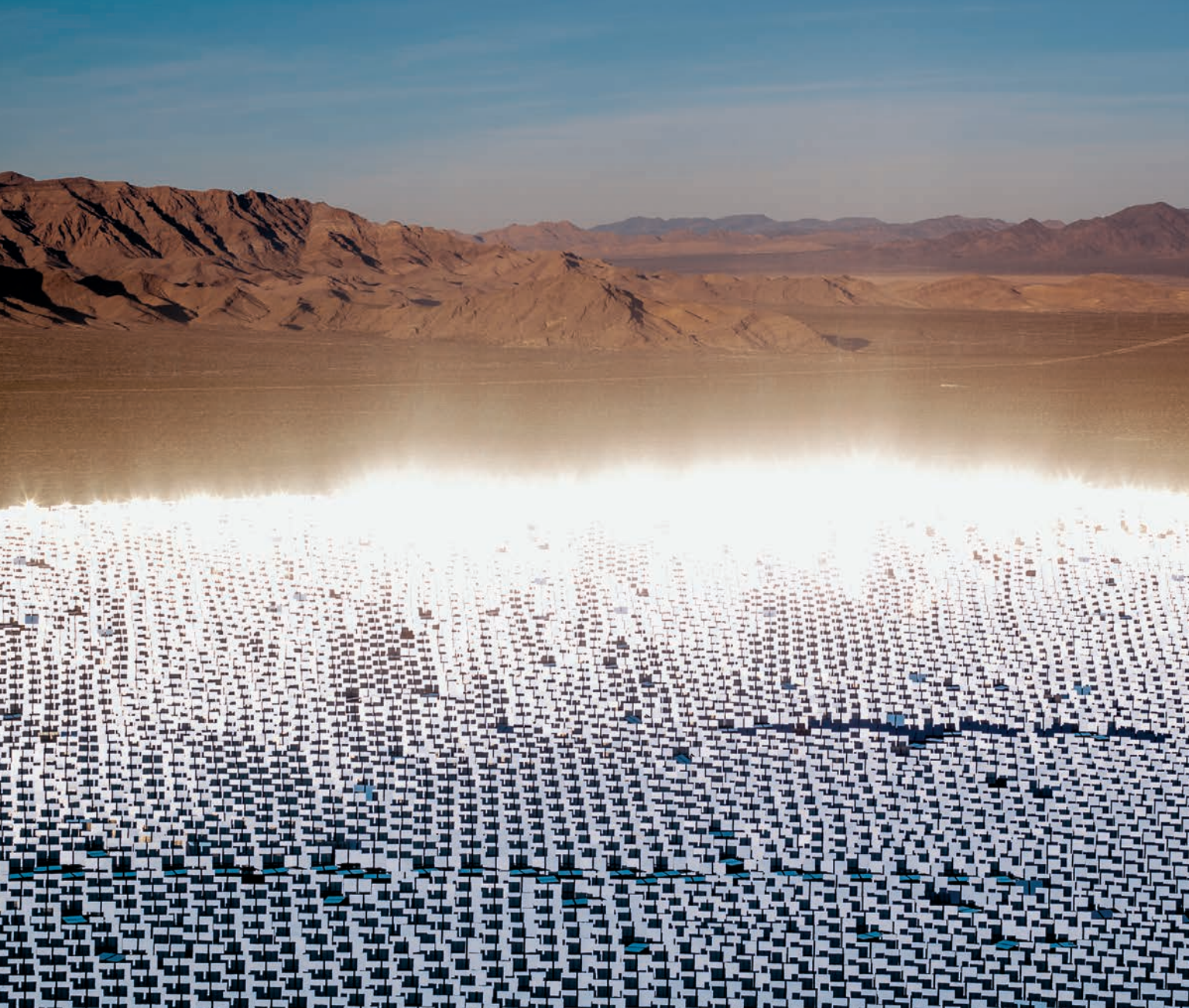
POLICIES AND THE NEXT STEP

What can cities and communities do? Diamond suggests that local governments attract college graduates by creating desirable amenities. "Policies that could achieve this include offering tax incentives to firms employing high-skill workers," she writes, "or funding amenities valued by college graduates such as policies targeting reductions in crime or improvements in the quality of local schools."

Looking ahead, Diamond would like to examine this issue at the neighborhood level — "who's willing to live next door to whom" — and how people segregate themselves in the particular places they live, she says. ▲



A homebuyer in 2013 could purchase approximately four 4-bedroom houses in Las Vegas for the price of a single studio apartment in San Francisco.



SUNSET COMING? A solar facility in the Mojave Desert

ENVIRONMENT

Preventing the Solar Cliff

A change to a tax credit could be a major setback to the nascent industry.

BY IAN CHIPMAN

The prospects for the widespread adoption of solar power are sunnier than ever. Thanks to incentives and plummeting costs, the solar photovoltaic industry is experiencing dramatic growth, accounting for almost a third of new generating capacity in the U.S. in 2014, second only to natural gas. The U.S. Energy Information Administration projects an increase of 6 gigawatts of utility-scale solar capacity by the end of 2016 (for comparison, the Hoover Dam has a maximum output of 2 GW of capacity). Apple recently announced plans to invest \$850 million in a utility-scale facility in California while Google dropped \$300 million into a SolarCity fund to finance residential solar installations. The U.S. Department of Energy wants solar



THE SOLAR CREDIT SUCCESS STORY

Designed to support the widespread deployment of solar energy, the Investment Tax Credit was created as part of the Energy Policy Act of 2005 and was extended for eight years in the Emergency Economic Stabilization Act of 2008. Specifically, the ITC allows companies that install, develop, or finance solar systems to claim a tax credit in the amount of 30% of the investment cost of the project.

The ITC helped to spur demand for solar installations, which in turn drove down costs. “The magnitude of the tax credit is very substantial and has given a boost to the solar industry in the U.S.,” Reichelstein says. “Also, the solar industry is cooking not only here in the U.S. but also in many other countries that have their own incentive systems. In terms of worldwide deployments, solar power is on a steep growth curve and there is no sign of it letting up.”

However, the 30% credit that has been so instrumental in jump-starting the industry in the U.S. is in effect only until Dec. 31, 2016, at which point the credit for commercial developers, who pay corporate income taxes, will drop to 10%. Individual homeowners who wish to self-finance would not receive any federal credits on their personal income taxes beyond 2016.

CLOUDS ON THE HORIZON

That drop would be a sharp setback to solar’s progress in becoming cost-competitive with other energy sources, Reichelstein shows in his study, “The U.S. Investment Tax Credit for Solar Energy: Alternatives to the Anticipated 2017 Step-Down.”

To assess the cost competitiveness of solar photovoltaics, the researchers analyzed the “levelized cost of electricity,” or LCOE, a metric used to compare the lifetime costs of different electricity generation sources.

“In terms of worldwide deployments, solar power is on a steep growth curve and there is no sign of it letting up.”

The researchers started by examining the economics of solar photovoltaics in five states that account for more than 65% of the solar installations in the U.S. — California, Colorado, New Jersey, North Carolina, and Texas — and across three market segments: residential, commercial, and utility-scale. Considering only the federal ITC, their results revealed a varied landscape of cost competitiveness relative to the rates charged by energy service providers. In California, for instance, residential and commercial solar installations are easily competitive with retail and commercial rates respectively. In Colorado, North Carolina, and Texas, solar installations are close to breaking even with those retail rates. On the other hand, utility-scale solar installations, which have to compete with lower wholesale electricity prices, are not yet competitive in any of the segments.

While under these circumstances solar hasn’t reached “grid parity” yet, the researchers forecast a brighter future. Manufacturing costs for solar panels and installation costs have plummeted as the technology has matured in recent years. Projecting continued cost reductions to the

to provide 14% of the power in this country by 2030 and 27% by 2050, up from less than 1% today. It’s a steep road, but momentum is clearly building.

The problem is, unless there is a change to current legislation, the solar power industry in this country is headed for a cliff. A federal tax incentive for solar projects called the Investment Tax Credit is set to expire at the end of next year. That will be a substantial blow to the industry as it’s learning to stand on its own, says Stanford’s Stefan Reichelstein. His new study, coauthored with research associate Stephen Comello, examines why this tax incentive is so important and offers up an alternative that would steer us away from the cliff.

Stefan J. Reichelstein is the William R. Timken Professor of Accounting at Stanford GSB and a senior fellow at the Woods Institute for the Environment. He is also faculty research director of the Steyer-Taylor Center for Energy Policy and Finance and faculty director of the Sustainable Energy Initiative.

end of 2016, the researchers found that solar is poised to make significant gains in cost-competitiveness across the entire sample.

But those projections look different if the ITC were to drop to 10%. “Our prediction is that it doesn’t matter which state you take or which segment you look at; solar would be pretty much uncompetitive by early 2017 in virtually all of the applications,” Reichelstein says.

AVOIDING THE CLIFF

A preferable strategy to dropping the solar tax credit from 30% to 10% and leaving it there in perpetuity, the researchers argue, would be to institute a more gradual phase-down starting in 2017. Comello and Reichelstein suggest that

the government could drop the credit in smaller increments, first in 2017, a second time in 2021, and then eliminate it after 2025. Under their phase-down proposal, investors would be eligible for targeted tax credits, calculated either as lump-sum amounts or percentage-based tax credits that would be phased down from 30% to zero. “That 10% ITC is still a considerable incentive that should not be minimized in terms of impact,” Reichelstein says. “Under the current tax rules, the industry would take a significant hit in 2016, but then keep significant subsidies. Our thinking was, why do the sharp step-down and then support the industry forever if it doesn’t need it forever?”

Instead of falling off a cliff, the industry would instead have to weather a series of smaller shocks as it works through a critical developmental phase. The researchers’ findings suggest that the industry should be able to sustain its momentum through those smaller shocks, leaving it poised to achieve true cost competitiveness by 2025.

“By that time, if history is any guide, solar should be fully competitive with natural gas or other energy sources at least in favorable locations,” Reichelstein says.

And the quid pro quo aspect could make the proposal an easier pill to swallow politically. Under the alternative proposal, taxpayers would be spending more in the immediate on solar, but they would no longer be supporting the industry in perpetuity. “It has a little bit of the flavor of Saint Augustine’s prayer, ‘Lord, give me temperance and chastity, but not right now,’” he says.

AN URGENT MATTER

Although the cliff is nearly two years off, we should resolve the issue now, Reichelstein says. For one thing, it would help ensure the industry doesn’t mirror the wind industry, which suffered whiplash as incentives expired and were renewed at the last minute multiple times over the past decade, contributing to a “prolonged market contraction” in that industry.

“The wind industry has really been at the whims of Congress,” Reichelstein says. “So putting solar on a long-term footing would be helpful for suppliers and consumers in the industry so they can plan farther out.” Otherwise, he says, “it’s very likely that running up to the end of 2016 we would see a boom followed by a bust with all the costs that come with such a cycle.”

We already see evidence of this boom. Companies like SolarCity are hiring in droves. In fact, according to a report by the nonprofit research group the Solar Foundation, one of every 78 new jobs in 2014 was created by the solar industry. Further, it anticipates that the total employment by the industry will grow over 20% in 2015, to 210,060 workers. “You can see what would happen in 2017,” Reichelstein says. “Companies like SolarCity may be well-positioned because they are cost leaders. The way they have phrased it is, ‘We’re fighting the step-down, but we will survive.’ But not everybody will survive.”

GREATER MARKET

Still, the U.S. is only one country that accounts for less than 10% of the global solar market, whereas China, which has historically dominated solar panel production, is quickly becoming a leading installer and consumer of solar power.

“The good news to keep in mind is that irrespective of what happens here, the rest of world will continue to expand rapidly with solar deployments,” Reichelstein says. “The question is where that would leave the U.S. solar industry.” ▲



The U.S. Department of Energy wants solar to provide this amount of power by 2050, up from less than 1% today.



Be Disruptive.

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MEDICINE

What Hospitals Around the World Can Learn From India

How a smart hospital used a simple approach to solve a big problem.

BY IAN CHIPMAN

In the developed world, innovation is nearly synonymous with high-tech products streaming forth from multibillion-dollar companies. And yet, some of the most striking lessons in achieving scalable solutions to persistent challenges can come from the most under-resourced areas, and with little to no technological wonders.

Stanford professor Stefanos Zenios, an expert on the intersection of technology and health care, sheds light on one such instance in a recent paper he coauthored and published in the *American Journal of Nursing*.

He and his colleagues found that one hospital in Bangalore dramatically reversed its high rate of a common hospital-acquired infection by implementing a strategy that balanced simplicity with sustainability. Any hospital around the world could benefit from understanding the foundation of its success.

Stefanos A. Zenios is the Investment Group of Santa Barbara Professor of Entrepreneurship and Professor of Operations, Information, and Technology at Stanford GSB, where he is the director of the Center for Entrepreneurial Studies.

Illustration by Marina Muun



TEAMING UP

In 2009, Zenios and a team of other faculty across Stanford's schools of business, engineering, and medicine were awarded a grant from the National Institutes of Health to develop a multidisciplinary Consortium for Innovation, Design, Evaluation and Action in global health. The business school's primary role in the consortium was to investigate health care advances in developing economies in order to help entrepreneurs tackle global health challenges. More specifically, they wanted to better understand how global health innovators could more effectively scale up their good ideas in emerging economies where conditions are complicated and resources are scarce.

The team gathered dozens of case stories from innovators and organizations spanning five continents. Their journey also brought them into contact with Devi Prasad Shetty, the founder, chairman, and managing director of Narayana Hrudayalaya Cardiac Hospital

in Bangalore, India (now known as the Narayana Institute of Cardiac Sciences). One of the world's largest cardiac hospitals, NHCH is known for its ability to balance high volume, quality care, and low cost. Shetty suggested that the researchers take a look at the hospital's initiative to address a rise in hospital-acquired pressure ulcers, also known as bedsores, which are common complications of surgical procedures.

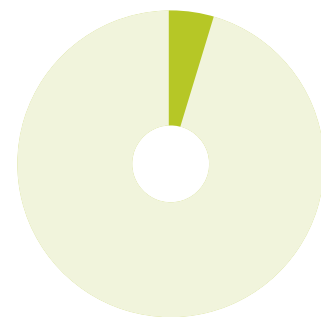
Their simple, effective solution impressed the researchers on a number of levels. "They developed and deployed a process widely within the hospital system without using any technology," Zenios says. "Sometimes we, in the developed economies, can learn from what organizations in developing economies do with limited resources."

A SUCCESS STORY

In early 2009, Shetty was troubled by the rise of pressure ulcer incidence that accompanied a spike in the number of cardiac procedures performed at NHCH.

Hospital-acquired pressure ulcers are not only painful for patients and a burden on health care costs, they are also widely viewed as an indicator of nursing care quality. One study suggests that each year over 2.5 million people in the United States develop pressure ulcers and the length of a hospital stay nearly doubles when a patient develops a pressure ulcer.

"Patients don't come to the hospital with pressure ulcers," Shetty told the researchers. "It is something we give them."



6%

Percent of patients at one hospital who got bedsores during recovery from surgery. A new set of protocols eliminated the problem.

He initially tasked a small nursing team with devising and implementing a prevention strategy. While it is often considered the nurses' responsibility when pressure ulcers develop, they are often powerless to influence the chain of events that leads to them. So the executive leadership made a point to educate and involve the physicians as well as the nurses — something that pressure ulcer prevention programs in the United States rarely do — and asked the nurses to suggest changes to operating-room procedures.

Before long, every one of the hospital's nurses, surgeons, and anesthesiologists was involved. The staff overhauled the paper documentation process to track every instance of a pressure ulcer, and singled out the individuals responsible when one arose. Each case was also discussed in detail — constructively, not punitively — during weekly meetings attended by all department heads.

These protocols resulted in increased transparency and heightened personal accountability, which were key to this program's success. In fact, the researchers found that investigating staff performance and providing constructive feedback was missing in most other systematic pressure ulcer prevention programs.

This alignment of bottom-up education and top-down leadership worked wonders. At the outset of the program, an average of 6% of patients experienced a pressure ulcer during the course of their recovery at NHCH. After six months, the team not only

“What this case demonstrates is that well-targeted, low-technology approaches can make a huge difference.”

reduced the rate of pressure ulcers, they eliminated them entirely. Four years later in 2014, that rate remained zero.

All too often in large organizations, Zenios says, when a problem is everyone's problem, then it's no one's problem. Here was a case where making the solution everyone's responsibility led to a collective wellspring of pride and success. “It was the personal responsibility that started making a difference,” one nurse told the researchers. “Now everybody's aware, everybody's cooperative and on their toes, and we have no skin ulcers.”

TAKEAWAYS

The program's initial success and subsequent sustainability were rooted in its simplicity and emphasis on the human capital at one's fingertips rather than high-tech solutions. Instead of investing in pressure-redistributing mattresses and other costly equipment, staff devoted time and careful attention to patients' skin care. And rather than tracking it all through electronic medical records, which can be confusing and not accessible to all staff members, they developed systematic improvements to paper documentation and fostered a culture of communication.

“There is this belief within the U.S. health care system that technology is going to be a big component of the solution,” Zenios says. “I think what this case demonstrates is that well-targeted, low-technology approaches can make a huge difference. It provides a template of how you can focus on a particular problem, identify the root cause, create targeted interventions, and then come out ahead in the end. These targeted interventions do not necessarily need fancy, complicated technologies.”

Not only is the approach used by NHCH a lesson in stretching limited resources, but it's also an example of a solution that is scalable precisely because of the effort and resources put into it, not in spite of them.

“You want to be looking for those cases where the problem you're going to prevent, by devoting more attention earlier, is a problem that becomes much bigger if you don't,” Zenios says. “This is one of those examples where you're coming out ahead by relieving burden.”

Whether you're running a hospital or any other organization that's stressed for time and money, this is a valuable lesson. It all comes back to one of the fundamental building blocks of medicine, and one that all too often gets overlooked. “Prevention,” says Zenios, “is much better than treatment.” ▲



POINTED ISSUES Hospital workers receive the first vaccination treatment for yellow fever in El Geneina, West Darfur, Sudan, 2012.

ACCESS

Creating a Healthier Continent

Health professionals discuss the challenges to bringing better medical care to Africa.

BY LILY B. CLAUSEN

Technology is transforming how health care is delivered in Africa, giving more people in remote areas there and around the world access to better care. Likewise, easier access to data helps both doctors and policymakers make better-informed decisions about how to continue to improve the system.

Even with these strides, however, the continent faces big challenges. The health care professionals on the ground in Africa know the frustrations firsthand: counterfeit pharmaceuticals; shopping malls equipped with air-conditioning while sweltering medical clinics limp along without it; much-needed medical equipment such as MRI machines getting caught up in the gridlock of international customs.

Africa, too, is confronting an increased demand beyond the treatment of AIDS, malaria, and other communicable diseases to address the noncommunicable ones such as hypertension, which are growing as the middle class increases.

Three health professionals — Abayomi Ajayi, Letitia Adu-Ampoma, and Azure Tariro Makadzange — recently discussed

these hurdles on a panel about health care in Africa at the Stanford Africa Business Forum at Stanford GSB. They shared their thoughts about scaling health care businesses in Africa during an interview with *Stanford Business*.

How is technology influencing Africa's medical industry?

Abayomi Ajayi, obstetrician/gynecologist at Nordica Fertility Centre Lagos in Nigeria

Access is still the greatest challenge to health care delivery in Africa. Fewer than 50% of Africans have access to modern health facilities. Many African countries spend less than 10% of their GDP on health care. Also, there is a shortage of trained health professionals from Africa because many of them prefer to live and work in places like the U.S. and Europe.

African countries have to embrace technology to close the health care gap, and private-public partnerships can help with that. We have seen that maintenance is usually one of the major problems with technology in the public sector, as everybody's property is usually no one's, and therefore no one takes responsibility for keeping it up to date and making repairs.

What is the role of government in providing care?

Azure Tariro Makadzange, infectious disease physician at the Ragon Institute of MGH, MIT, and Harvard, and also at the University of Zimbabwe College of Health Sciences

I think government is responsible for ensuring that everyone has access to health care; however, I don't think that health care is a public good that is the sole responsibility of the government. There should be an opportunity for entrepreneurs to enter the health delivery space in Africa. Unfortunately, due to aid and its influences, it is exceedingly difficult for

local entrepreneurs to compete with the foreign-funded public programs. There are no incentives for entrepreneurs to enter that space to provide health care to the middle classes and the working poor.

The low-hanging fruit for many at the moment is providing health care to Africa's growing wealthy class while creative, innovative, and sustainable solutions to providing care to the majority who cannot afford expensive care are lacking.

What's the biggest challenge for health care delivery in Africa?

Letitia Adu-Ampoma, head of compliance (West and Central Africa) for Sandoz, the generic pharmaceuticals division of Novartis. (She is speaking for herself, not Sandoz or Novartis, during this interview.)

I think there are several big challenges for health care delivery in Africa:

- **Worker Shortage** The number, quality, and capability of health care workers across countries as a ratio to the population is low.
- **Corruption in the Public Sector** Corruption diverts much-needed resources away from health care delivery and reduces patient access to services. Examples include medical staff in public sector health care institutions who sell drugs that should be free, and theft (for personal use) or diversion (for private sector resale) of drugs and supplies at government storage and distribution points. In addition, bribes to gain approval for drug registration or to pass drug-quality inspections are resulting in fake drugs "legitimately" entering markets.
- **Counterfeit Drugs** A darker consequence of the rise of technology is that it enables counterfeiters to run even more sophisticated operations and make counterfeit drugs that are harder to detect. An example of this can be found in Nigeria where, despite regulators' adoption of counterfeit drug "track and trace systems," there is evidence

There are no incentives for entrepreneurs to enter the space that provides health care to the middle class and the working poor.

that some of these systems are being successfully "copied" by counterfeit drug producers. As a result, counterfeit drugs now present themselves as authentic drugs.

- **Changing Medical Needs of the Population** Much of the current focus of health care delivery in Africa is on traditional and visible factors like HIV and malaria. However, changes in lifestyle and a growing middle class are making noncommunicable diseases like cardiovascular disease, cancer, and diabetes big issues among populations. Rapid urbanization and increased Westernization of lifestyles among the middle classes are causing an increase in the risk factors that cause noncommunicable diseases.

People consume more fast food and packaged foods, which tend to have high levels of sodium; they engage in less physical activity, sitting in their cars and buses on their way to work; and they are more likely to consume alcohol in their leisure time. Another risk factor is an increase in smoking rates across populations. ▲

Abayomi Ajayi is an obstetrician and gynecologist at Nordica Fertility Centre Lagos in Nigeria. Azure Tariro Makadzange is an infectious disease physician at the Ragon Institute of MGH, MIT, and Harvard, and also at the University of Zimbabwe College of Health Sciences. Letitia Adu-Ampoma is head of compliance in West and Central Africa for Sandoz. In April, they addressed the Stanford Africa Business Forum at Stanford GSB.

HELP

The Tough Math Behind Humanitarian Aid

A study finds that a different approach to food-relief efforts in the developing world could save more lives.

BY EDMUND L. ANDREWS

In early 2013, Northern Mali, wracked by drought and by the occupation of Islamic jihadists, faced mass starvation. The United Nations estimated that 585,000 needed “immediate food relief.” But months later, international donors had come up with only \$17 million in emergency assistance, a tiny fraction of the money that relief groups said was necessary to prevent widespread death.

Mali, which suffers from chronic starvation, is hardly alone. The cruel truth is international relief groups are routinely forced to ration scarce supplies of high-powered, ready-for-use therapeutic foods.

If 5,000 children are undernourished, but there isn’t enough emergency nutrition to go around, who gets top priority? It’s a question of triage. The standard policy today is to spread the food as widely as possible, even if very few children get a full dose. In a provocative paper, however, researchers at Stanford GSB and the University of Bergen in Norway argue that an all-or-nothing approach would save more lives.

If relief workers are forced to practice triage, they say, the best approach is to concentrate all the available relief on the children closest to death’s door.

Lawrence Wein is the Jeffrey S. Skoll Professor of Management Science and Lacob Family Faculty Fellow for 2014-2015.



Peter Marlow/Magnum Photos

TRIAGE
Refugees in camps
around Lusaka,
Zambia, 1978



The researchers acknowledge that their approach may be unacceptable in some areas and caution that empirical issues remain.

The findings run counter to current practices at most relief organizations. They may not sit well with humanitarian groups either, as relief workers could be forced to make wrenching distinctions among children who are all undernourished.

The researchers — Stanford GSB's Lawrence M. Wein; Yan Yang, a former graduate student at Stanford's Institute for Computational and Mathematical Engineering; and Jan Van den Broeck at the University of Bergen — published their findings in *Proceedings of the National Academy of Sciences*.

The team based its findings on mathematical analysis of data on thousands of undernourished children aged 5 or younger in the Democratic Republic of Congo and in Niger. Their conclusion: An all-or-nothing approach, combined with a more comprehensive measure of undernourishment, could reduce deaths and life-limiting disabilities by 9%, compared with current policies. Alternatively, they estimate, relief groups could get the same health results as today but reduce the cost by 61%.

The researchers cautioned that their findings need more testing, because the available data has limitations. But the study may be more important as an example of creatively applying mathematical tools to humanitarian relief.

At Stanford, Wein has already made headlines by using mathematical models to analyze challenges in health care, such as quantifying the modes of influenza transmission, as well as in handling terrorist threats.

After the terrorist attacks on Sept. 11, 2001, for example, Wein and his colleagues used mathematical modeling to devise novel responses to potential attacks involving anthrax, smallpox, and botulinum toxin. Some of their proposals are now government policy. In the case of anthrax, for example, President Obama has signed an executive order that uses Wein's recommendation of deploying U.S. postal carriers to deliver powerful antibiotics door to door. Likewise, Wein used mathematical analysis to show that terrorists could easily kill legions of people by slipping minute amounts of botulinum toxin into the nation's dairy supplies — but that the threat could be greatly reduced by requiring dairies to pasteurize more intensively and by making simple improvements in security. When Wein wrote an op-ed titled "Got Toxic Milk?" for *The New York Times*, the Bush administration and the dairy industry temporarily blocked publication of his peer-reviewed study.

The common thread through much of Wein's work stems from his mathematical analysis of manufacturing. In the 1980s and 1990s, he wrote heavily about "queuing" and dynamic scheduling in semiconductor production. He then applied similar mathematical tools to analyze a host of other questions: the best way to allocate kidneys for transplant, the best "cocktails" of antiretroviral drugs for treating AIDS, and the best strategy to eradicate smallpox after a bioterrorist attack.

In the new paper, Wein, Yang, and Van den Broeck focus on getting the most out of "ready-for-use therapeutic foods," or RUTFs, in famine situations. RUTFs are essentially protein-rich pastes, often made from peanuts, which are packed with a balance of vitamins, carbohydrates, and other nutrients. They don't need to be heated or cooked, can be stored without refrigeration, and can dramatically reverse the effects of starvation.

Using advanced statistical regressions, the researchers analyzed the impact of different doses of RUTFs on children with different degrees of undernourishment. The two main gauges of undernourishment are "wasting," based on weight-height ratios or "WHZ" scores, and "stunting," based on height and age or "HAZ" scores.

In practice, relief organizations screen children primarily by WHZ scores for acute wasting. But the researchers found that the best predictor of early death and life-shortening disabilities was a combination of both the stunting and wasting measures. Stunting, they found, significantly aggravates the impact of wasting as a cause of early death.

The second big finding was that an all-or-nothing distribution of ready-for-use food saves more lives. It would be more effective, for example, to give full doses of RUTF to the 25% of children who are the most severely undernourished than to give half doses to the 50% who are the worst off.

The researchers acknowledge that their approach may be politically or culturally unacceptable in some areas, and they caution that empirical issues remain. But Wein said their approach shouldn't pose new moral or ethical issues. That's because most current approaches already practice a form of triage by defining severe undernourishment as a WHZ score of less than -3. Children with slightly milder symptoms are given less-powerful supplements.

"If you believe our results, which appear to be reasonably robust, one would say that blanket distribution poses a bigger ethical problem than an all-or-nothing approach," Wein said. ▲



ON-THE-GROUND Auerbach, center, in Nepal

CRISIS

Lessons From the Disaster Zone

A Stanford physician explains what leaders need to know before the next natural disaster strikes.

BY SHANA LYNCH

Courtesy Paul Auerbach

For the better part of a week, Stanford physician Paul Auerbach worked from the back of a vehicle in Kathmandu, in a village health post missing part of its wall, at a district hospital in Dhading, and in a school building tending to the ill and injured following the April earthquake in Nepal that killed more than 8,000 people and sent aftershocks rattling through the mountainous region. “We were a little nervous about being inside the clinic building,” the emergency medicine professor says. “We positioned ourselves so that we could exit pretty quickly.”

Auerbach was part of a team brought to the region by the nonprofit relief organization International Medical Corps. His first experience in massive disaster relief was in Haiti, where hundreds of thousands of people were killed in the 2010 earthquake. Here he discusses the differences between the responses, and how leaders can better prepare for the inevitable natural disaster.

Was Haiti your first emergency response experience?

It was my first really big one. I had been involved in a few mass casualty incidents with a maximum number of victims of approximately 20. I went from 20 to thousands in Haiti, so that was a huge leap for me.

How did Nepal compare? The biggest difference was that Haiti, at the time of the earthquake, essentially had no medical infrastructure to speak of. The hospitals were not functioning. They didn’t have a robust medical community of any sort.

In Kathmandu, there were many functioning hospitals, and the majority of them were able to function at considerable or even full capacity because while the ancient buildings collapsed, the hospitals stood. Kathmandu has a medical infrastructure with highly qualified physicians and other health care personnel, so they were able to absorb the first wave of patients. They could have used some help, but they weren’t starting from scratch.

Paul Auerbach, is a 1989 MS graduate of the Stanford GSB Sloan Fellowship and a professor at Stanford University School of Medicine. He is editor of the textbook *Wilderness Medicine*, which emphasizes care in austere settings.



DISASTER Dhading, Nepal, following the earthquake, above; many Nepalese, forced to leave their homes after the quake, wear face masks to protect against dust.

The second difference was the number of victims. In Port-au-Prince, there were probably 100,000 to 200,000 victims that needed to be cared for, as opposed to the situation in Kathmandu, where it was a much smaller number. Nepal had more capacity and fewer patients, and they had effectively practiced for this eventuality. All things considered, it was an outstanding response.

What are the immediate needs in disaster areas? When you come in, you need to find the victims. You need to treat them. You need medical supplies. You need adequate personnel in order to manage the life- and limb-threatening injuries in the first few days. From the moment of the earthquake and forward, there's a need for water and food. In Haiti, the supplies initially weren't there. Everything needed to be carried in. In Kathmandu, for the most part, the supplies were available. Of course, they needed supplementation, and that happened and will continue to happen. In Kathmandu, they never were in a situation where they had nothing, which was unfortunately the situation in Port-au-Prince. Haiti was a very dire situation. It was horrific. I don't mean to

imply that things were good in Nepal. In the villages surrounding Kathmandu and in the areas affected by the second earthquake, the situation was very bad.

How do teams best work in these intense environments? Most organizations have a predetermined structure, and if they don't know precisely who's going to be in charge of which aspect, then they determine those roles right away. Optimally, you have organized groups involved in medical response. You have the requisite number of persons involved in logistics. There are persons assigned to security, communications, and so forth.

The team concept is more than important. It's critical. People play roles in disasters, and everyone does his or her best to try to stay within their role. Because other people are counting on you and you on other people, you need to do your job.

Can there ever be too much disaster relief? There comes a point when you have enough people and enough supplies. At that point, you need to start storing things and sending people home.



The responses are never perfect because you discover that you need more of something and less of something else. The same holds true for people. For example, the changing nature of medical conditions following an earthquake causes you to need emergency medicine specialists early on, but then orthopedic surgeons and reconstructive surgeons later during the response.

Very early on, you want public health specialists and people who know how to deal with sanitation, water, and hygiene to make sure people are well cared for and avoid the onset of communicable diseases, particularly diarrheal diseases like cholera.

Kathmandu proper had a robust response, but what's unique about this situation is that outside of Kathmandu in the hill country, where the normal



CARE Clockwise from top, caregivers work with a young patient at a health outpost in Kumpur, Nepal; a young Nepalese boy sits on a curbside; people seek medical attention in Hatia.

transportation is hiking very steep, narrow mountain trails for one or two days to get from village to village, many of those communities had all their dwellings wiped out. People were cut off from rescue and communications. If they could've walked down, they would have done that. They couldn't, either because they were injured or because the paths were impassable from rockslides or other obstructions. So they could only effectively be approached from the air by helicopter, and supplies, shelters, food and water, and rescue personnel delivered that way.

Supply chain seems critical. How do you know if it's working? The simple answer is when you're getting what you need in a timely fashion, it's working well. When you're not getting what you need, or you're getting things you don't need, then it's not working well.

You mentioned previously that military are especially good partners in this. Nobody can move people and materials like the military. The military is used to chain of command and structure, and they train to do these sorts of things. They're all about teamwork, and they're all about rapid response.

I wrote a paper after the Haiti earthquake about the civil/military collaboration we experienced because I wanted to make sure credit was given to the United States military. They saved the mission in Haiti. Without their support,

many more lives would have been lost. They're good at moving equipment. They have medics and doctors. They come to be helpful, and they show a lot of skill and compassion. They're not coming to fight a war. They're coming to help you out and save people, and they do it well.

In Nepal, there was less of a need for that kind of a massive military response, but where they were present, which was mostly Nepal's military, they were really good.

What could Nepal or other regions do better? Anticipating supply chain management is important. Being able to control and facilitate all access points into the country, whether entry is by air or ground, is very important because that's how you bring in the food, water, and people.

Communications are always a problem, so you need redundancy. You have to anticipate that while the cell phone networks may be operative, they're usually

overloaded. If we wanted to make telephone calls, it had to be extremely early in the morning because by the mid-afternoon, regardless of which system you used, you couldn't get through.

I haven't yet seen a country that has an effective structural engineering response to clear buildings quickly for occupancy, to know where it's safe to go in and where you need to stay out. With so many people displaced, it's huge to be able to use all the safe buildings, but you have to know which ones are safe.

Nepal used its open spaces well. People wouldn't go back into their homes because they knew or suspected they were unsafe. There has to be provision made for tented cities. They did that pretty well, but in most areas struck by earthquakes, there's always a need for more temporary shelters like tents.

What's the takeaway for leaders? Every community should be prepared for the most likely disasters that will afflict them. If you live in the Midwestern United States, you need to think about what's going to happen in the event of a tornado. If you live in the Southeastern United States on the Gulf Coast, you need to be thinking about hurricanes. If you live in earthquake territory, you should be thinking about earthquakes. If you live in a dry area near a forest, wildfires are a problem. These disasters really happen, and being prepared is infinitely better than not being prepared. ▲

“Every community should be prepared for the most likely disasters that will afflict them.”

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EXCHANGE

SOME FINAL THOUGHTS ON HEALTH
EDITED BY NATALIE WHITE

“Health care suffers from
**information
chaos.**”

— **Stacie Vilendrer**, a 2015 MBA graduate of Stanford GSB, in her *TEDxStanford* talk
<http://stanford.io/1B0pONt>

On rebooting an organization’s culture:
“You have to

reinvent

for the future but keep the threads of what makes the company great.”

— HP CEO **Meg Whitman** during her *View From the Top* talk
<http://stanford.io/1f0SUqI>

Deciding to remain
positive

is important when tackling entrepreneurial challenges.
— HealthTap founder **Ron Gutman**, a 2005 MBA graduate of Stanford GSB, during his *Stanford ETL* talk
<http://stanford.io/1EzANbF>

“Telemedicine may just be the biggest trend in
digital health

in 2015.”

— **Skip Fleshman**, a 2001 Sloan MS graduate of Stanford GSB, writing in *Forbes*
<http://stanford.io/1QJ9VkX>

People with higher ratios of positive to negative emotions are more likely to

flourish

in life — experiencing better health, more satisfying relationships, and greater professional achievement.

— **Shirzad Chamine**, a 1988 MBA graduate of Stanford GSB, for *Stanford Business*
<http://stanford.io/1Jc7Ugg>

“Cost

containment and competitive pressures will transform, if not doom, health insurance companies.”

— Professor **Jeffrey Pfeffer**, writing in *Fortune*
<http://stanford.io/1tFYowZ>

“We are going to be the
caregiver generation

and we will need better solutions.”

— **Anu Sharma**, a 2014 MSx graduate of Stanford GSB, during her *LOWkeynotes* talk
<http://stanford.io/1zGJEuf>

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The Takeaway



An Ethical Approach to Portfolio Management

Applying moral principles to portfolio management can sometimes meet the needs of small investors without significantly harming those who have invested more.

— **Dan Iancu**

THE ESSENTIALS

FIVE LESSONS FROM OUR STORIES ON HEALTH
EDITED BY
DEBORAH PETERSEN

A Case for Paying Politicians More

Public servants respond to incentives in the same way as any employee does. We tend not to regard elected officials like other individuals who, when expected to perform better, get compensated better.

— **Renee Bowen**



What Determines the Health of Cities?

College graduates are increasingly clustering in more expensive cities that offer more amenities. That rise is tightly correlated with an increase in rents, leading to a disproportionate out-migration of non-college graduates.

— **Rebecca Diamond**



Hospital Competition Is Good for Patients

Competition among hospitals significantly improves management and quality of care, drives down prices and makes people run their businesses more effectively. “Competition is good for reducing managerial laziness.”

— **Stephan Seiler**

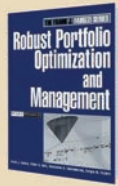


Keep It Simple

Well-targeted, low-technology approaches to problems can make a huge difference. The initial success and subsequent sustainability of a program in Bangalore that reversed its high rate of a common hospital-acquired infection were rooted in its simplicity and emphasis on human capital rather than in high-tech solutions.

— **Stefanos Zenios**





Dan Iancu

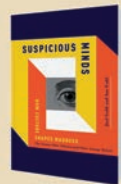
Robust Portfolio Optimization and Management, by Frank J. Fabozzi, Petter Kolm, Dessislava Pachamanova, and Sergio M. Focardi, 2007

“Multiportfolio Optimization: A Natural Next Step,” by Martin W. P. Savelsbergh, Robert A. Stubbs, and Dieter Vandenbussche, *Handbook of Portfolio Construction*, 2010

“Pooling Trades in Quantitative Investment Process,” by Colm O’Cinneide, Bernd Scherer, and Xiaodong Xu, *Journal of Investing*, 2006

Roderick Kramer

Suspicious Minds: How Culture Shapes Madness, by Joel Gold and Ian Gold, 2014



Overcoming Paranoid and Suspicious Thoughts: A Self-Help Guide Using Cognitive Behavioral Techniques, by Daniel Freeman, 2008

Jeffrey Pfeffer

“Stress at the Workplace: Some Simple Questions and Answers,” World Health Organization <http://bit.ly/1IGLQfL>

“Stress ... at Work,” DHHS (NIOSH) Publication Number 99-10, Centers for Disease Control and Prevention, 1999 <http://1.usa.gov/1DYreZb>

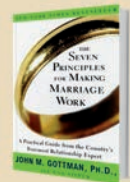
“Workplace Stress,” The American Institute of Stress <http://bit.ly/1i5E7Zs>

Carole Robin

Stanford Executive Education Course: “Interpersonal Dynamics for High-Performance Executives” <http://stanford.io/1ijL9eS>

Stanford Continuing Studies Course: COM 19 — “Building Interpersonal Skills: An Experiential Workshop” <http://stanford.io/1MJy99U>

The Seven Principles for Making Marriage Work, by John M. Gottman and Nan Silver, 1999



Stephen Seiler

“Does Management Really Work?” by Nicholas Bloom, Raffaella Sadun, and John Van Reenen, *Harvard Business Review*, November 2012 <http://bit.ly/1Gfx1Nt>

Lawrence Wein

Food Aid After Fifty Years: Recasting Its Role, by Christopher B. Barrett and Daniel Maxwell, 2005

“Effect of preventive supplementation with ready-to-use therapeutic food on the nutritional status, mortality and morbidity of children aged 6 to 60 months in Niger,” by Sheila Isanaka, Nohelly Nombela, Ali Djibo, Marie Poupard, Dominique Van Beckhoven, Valérie Gaboulaud, Philippe J. Guerin, and Rebecca F. Grais, *Journal of the American Medical Association*, 2009

THE RECOMMENDED LIST

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Nicholas Bloom

“Big Med,” by Atul Gawande, *The New Yorker*, Aug. 12, 2012 <http://nyr.kr/1umEFQ4>

“The Cost Conundrum,” by Atul Gawande, *The New Yorker*, June 1, 2009 <http://nyr.kr/1slgGlt>

Steven Callander

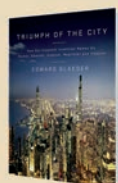
Pivotal Politics, by Keith Krehbiel, 1998



Rebecca Diamond

Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier, by Edward Glaeser, 2012

The New Geography of Jobs, by Enrico Moretti, 2013





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