

The Russian Mortality Crisis: A Case of Economic Transition or an Anti-Alcohol Campaign Gone Wrong?

In the mid-1980s, life expectancy in Russia suddenly improved, and then took a drop downward for the worse in the 1990s, leading many to believe that economic transition “kills people.” But researchers at CHP/PCOR are studying a little-examined phenomenon in that decade when Mikhail Gorbachev—then the General Secretary of the Communist Party in Russia—launched a large public health campaign against alcohol abuse, which reduced alcohol production and imposed strict measures to limit its distribution.

“There was an increase in life expectancy between 1986 and 1988, especially among males, so we wanted to see if the drop in life expectancy in the early 1990s was actually related to rising alcohol consumption after the anti-alcohol campaign was renounced and not just economic transition,” explained **Christina Gathmann**, a postdoctoral fellow with the Stanford Center for Longevity, who is working with CHP/PCOR core faculty members **Jay Bhattacharya** and **Grant Miller** on the project. “The idea is to look at the anti-alcohol campaign and establish what the effect on life expectancy really is.”

While they have just secured data for a quantitative analysis, a few things seem immediately apparent: the effect is especially strong for males—though that is true of economic transitions as well—and the Russian population exhibits lower life expectancy even compared to other countries going through economic transition in the same period.

“Many countries in Central and Eastern Europe have experienced some decline in life expectancy during economic

transition. But, the decline was most pronounced in the former Soviet Union where life expectancy among males fell by almost 10 years. There is a lot of evidence that alcohol plays an



One of many posters from Gorbachev's anti-alcohol campaign.
“Profiteer is a worst enemy.”

important role in this development,” Gathmann said. “A lot of the drinking in Russia and other countries of the former Soviet Union is heavy binge drinking—literally drink until you drop. From talking to Russians, they basically say that it’s such a common phenomenon that on weekends, many will go out and drink vodka until they faint, and if you do that enough, there is a good chance that you’ll drown or cause a deadly car accident. There are a lot of deaths related to binge drinking.”

While previous research has examined this period using time-series data to understand the underlying context for the changes in aggregate mortality, none to date have been able to examine detailed regional variation in mortality within Russia.

“Russia is split up into about 85 regions (*oblasts*) and republics, and we’re trying to exploit the substantial

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Preparing for the Unexpected: The Modeling of a Bioterrorism Threat and Response

Proper planning for a bioterrorism attack has not been widely studied in the past decade, but it is increasingly the target of intense investigation for clear reasons. Even before the 9/11 and anthrax attacks though, CHP/PCOR researchers were carrying out cutting-edge research on bioterrorism preparedness and response planning, evaluating the types of research already being conducted as well as performing new research to inform bioterrorism preparedness planning guidelines.

Back in 1999, CHP/PCOR researchers received a grant to conduct a systematic review on information technologies to support clinicians and public health officials responding to bioterrorism. At the time, no one at the centers had any experience doing bioterrorism work, but through collaboration and learning, the center has transformed itself into a leader in the field of bioterrorism preparedness research.

“After the anthrax attacks and 9/11 happened, we suddenly went from nowhere on the map, to having a few projects under our belts every year,” said senior research scholar **Dena M. Bravata**. “When we first got started, [core faculty member]

Douglas Owens and [faculty fellow] **Margaret Brandeau** had done a lot of work together on the spread of infectious disease, HIV, and more.”

The group that started with Owens and Brandeau now includes a number of people within the centers—including Bravata, executive director and senior scholar **Kathryn M. McDonald**, and research manager **Sheryl M. Davies**—as well as outside collaborators who explore issues ranging from emergency preparedness for general outbreaks, to bioterrorism preparedness and response using decision support systems.

“It is clear there is no single community or locality that can prepare by itself for a bioterrorism attack,” according to Bravata. Recently, Brandeau, Owens, McDonald, and Bravata, along with former CHP/PCOR trainee **Jon-Erik Holty** and colleague Gregory Zaric from the University of Western Ontario published a paper in *Medical Decision Making* entitled, “Modeling the logistics of response to anthrax bioterrorism.” The paper put forth a model based on supply chains and the progression of anthrax in an exposed population.

The model was created to help guide thinking in evaluating the trade-off between specific questions: You could choose to

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WINTER MEDIA MENTIONS

Media Mentions are a compilation of select CHP/PCOR-relevant daily media reports produced by the Stanford School of Medicine's Office of Communication & Public Affairs. Media Mentions are edited by CHP/PCOR editor Amber Hsiao.

The study found that use of the pedometer was associated with a significant increase in physical activity and weight loss, as well as improvements in blood pressure. The article

CHP/PCOR senior scholar **Dena M. Bravata**'s study on the use of pedometers was mentioned in a *USA Weekend Magazine* article (Feb. 3).

featured tips on how older adults can lead healthy lives.

A study led by CHP/PCOR adjunct associate **Hau Liu** was referenced in a *MLB.com* article (Feb. 12) that discusses Congressional hearings on the use of human growth hormone among professional athletes.

CHP/PCOR faculty fellow **Laurence C. Baker** and colleagues authored a report that found large variations among California hospitals in the intensity with which the facilities treat seriously ill patients. The piece received wide media coverage.

The piece originally appeared in *Real Simple* magazine.

CHP/PCOR associate **Roy Soetikno** led a study published in the *Journal of the American Medical Association* that examined formation of nonpolypoid colorectal neoplasms (NP-CRNs) in a group of veteran patients. The researchers found that NP-CRNs were “relatively common lesions diagnosed during routine colonoscopy and had a greater association with carcinoma compared with polypoid neoplasms, irrespective of size.” Coverage of the research was featured in the *New York Times* (Mar. 5).

CHP/PCOR associate **Keith N. Humphreys** wrote in a *San Francisco Chronicle* Op/Ed (Mar. 14) about how parents may prevent passing on anxiety disorders and phobias onto their children. Humphreys gives tips on how to avoid passing certain behaviors on to children, even in spite of genetic predisposition.

CHP/PCOR associate **Keith N. Humphreys** was interviewed in a *New York Daily News* Q & A piece (Mar. 14.) on the effectiveness of Alcoholics Anonymous and other 12-step programs. Humphreys, an expert in the field of addictions, explains that most treatments for addictions fail the first time around, citing that the average person who succeeds in quitting smoking has tried 6 times. §

PEOPLE OF CHP/PCOR

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The CHP/PCOR Quarterly Update is written and designed by Amber Hsiao, Information Editor & External Relations Coordinator. Comments are welcome at amhsiao@stanford.edu.

CHP/PCOR associate **John Morton** was interviewed in a “Today Show” segment on NBC (Feb. 18) about gastric bypass surgery. The segment featured actor Ron Lester, who had undergone the surgery, in addition to 17 plastic surgeries over three years to remove excess skin.

CHP/PCOR core faculty member **Paul H. Wise** was quoted in a *Newsweek* article (Mar. 3), explaining that with inadequate coverage, children with asthma may forgo care, presenting a higher number of emergency room cases when things become more serious.

CHP/PCOR associate **Christopher D. Gardner** is quoted in a *Modesto Bee* article (Mar. 3) that describes ten commonly-followed diet myths.

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buy all the antibiotics you need for your community, but is it worth the trade-off in terms of monitoring expiration dates, and keeping a large inventory that involves more storage space and greater costs? How much should you rely on local inventories of antibiotics and other medical necessities as opposed to relying on the national stockpiles?

Zaric took the lead in developing the model that the researchers used to evaluate various preparedness and response scenarios and make recommendations regarding future research.

“As an example, we found that it really does not make much sense for local communities to be self-sufficient in terms of their antibiotic stockpiles—it just wastes too much money,” Brandeau said. “It’s way too much of an investment, and it doesn’t make sense because we have huge national resources.”

One of the groups’ key findings was that if resources are only to be spent in one place, the best bet is to develop the points of dispensing so that, in the case of a real emergency, as soon as antibiotics and other supplies arrive, sites are set up for people to go to.

“You want to be able to administer the medicine, check for allergies, get pills to people, and all that as rapidly as possible,” Bravata said. “Another part of that is making sure the public knows where to go so that there aren’t traffic jams and security issues—it’s best to try to work out the critical factors that are going to limit your ability to save lives before the emergency arrives.”

Coordinating these tasks, however, is the hard part. And ultimately, without the right chains of command, flow of information, and efficient supply chains, emergency preparedness is hard to get “right.”

Recently, Brandeau, Owens, Bravata, and their graduate student colleague David

“We’re trying to develop standards in the same way that there are standards for how to do cost-effectiveness analysis and meta-analysis for disaster modeling.”

—Dena M. Bravata

W. Hutton in the Stanford Department of Management Science and Engineering published a paper in the *American Journal of Disaster Medicine*, entitled “Planning the bioterrorism response supply chain: Learn and live.”

“Our approach was to take ideas from manufacturing and supply chains,” Brandeau explained. “For example, [Hewlett-Packard] supply chains are running all the time. Even as we speak, printers are being made, and documents are being shipped, whereas in a bioterrorism supply chain, things are only being shipped in the case of an emergency.”

One of their key findings is that in order for supply chains to be successful, people’s incentives need to be managed.

“When you think about bioterrorism response, there are going to be all types of people involved: volunteers, technicians handing out pills, people in hospitals, local public health officials, people who are trying to keep order, etc.—it’s really quite interesting,” Brandeau said. “You have all these different people with different incentives.”

So in order for a product to be delivered effectively, these chains of command have to be properly managed for a smooth process. If you buy a printer from HP and you live in Japan, at the last minute, the manufacturer will pop in a power supply and the right manual in Japanese—a process called modularization—to customize your order, but making sure these final components are available is critical to an efficient operation.

“In bioterrorism, you might think about pre-making packets that have adult doses for anthrax, and then apply

modularization to the languages of the instructions given out with the packets,” Brandeau said.

Having the proper information about which manufacturer has what part and in what quantity is crucial to the smooth delivery of the end product.

“It really only takes one piece to not work in order for the entire supply chain to shut down,” Brandeau explained. “It’s very important to have a smooth flow of information, especially in the supply chain of bioterrorism where what you need and when you need it has time limits that are critical. If you don’t get your printer, then you can probably wait until next week, but if you don’t get your antibiotics, you might die.”

Disasters happen only every so often, so modeling provides a good way to inform preparedness planning. Even for situations that are not as easy to plan for—such as adherence to medication and language barrier issues—the group has been able to incorporate data from previous studies into their model.

“Even if you have your points of dispensing all ready, if you tell people where to go to get the antibiotics, they won’t always go for various reasons,” Brandeau said. “We found that things don’t work as well as the model suggests—people might not speak a certain language, or maybe they won’t follow directions—but the model allows you to vary these adherence rates to see what happens.”

While there are many types of disaster models, strategies, and elements of responding to an emergency, there are key principles in the field that are being developed, as people are beginning

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NEWS RELEASES

Hand-held Computers Prod Older Adults to Exercise More, Stanford Study Shows

February 5, 2008

By ALISSA POH

STANFORD, Calif. — Today's younger generation may reckon that "ne'er the twain shall meet" where technology and their elders are concerned. However, ongoing research by Abby King, PhD, professor of health research and policy and of medicine at the Stanford Prevention Research Center, appears to be gradually dispelling that notion.

In a study, King showed that specially programmed PDAs, or personal digital assistants, can prod middle-aged and older Americans—the most sedentary segment of the U.S. population—into increasing their physical activity levels. This first-generation study follows on the heels of King's research report in the December issue of *Health Psychology*, in which she showed that automated computer calls were almost as effective as live health educators in coaxing people previously less active to get more of a spring in their step.

King and colleagues feel that developing approaches to help people increase their exercise frequency, while taking into account an individual's schedule and environment, is particularly important.

"Portable computer devices are useful because they can be carried around throughout a person's day," King said. "Such devices represent one kind of strategy for being able to provide individuals with the help and support they need, in a convenient, real-time context."

The researchers invited the public to participate in this new study through local mass-media outlets, like the *Palo Alto*

Daily News and the *San Jose Mercury News*. Out of 69 callers who were screened for eligibility, 37 were invited to be study participants and randomly assigned to an eight-week program in which they either received a Dell Axim X5 PDA, or traditional handouts related to physical activity. "Then we let 'em roll," King said.

The Dell Axim X5, chosen for its large-sized, easy-to-read screen and good contrast, was fitted with a program that asked participants approximately three minutes' worth of questions.

Among the questions: Where are you now? Who are you with? What barriers did you face in doing your physical activity routine? The device automatically beeped once in the afternoon and once in the evening; if participants ignored it the first time, it beeped three additional times at 30-minute intervals. During the second (evening) session, the device also asked participants about their goals for the next day.

With this program, participants could set goals, track their physical activity progress twice a day and get feedback on how well they were meeting their goals. After eight weeks, the researchers found that while participants assigned to the PDA group devoted approximately five hours each week to exercise, those in the control group spent only about two hours on physical activities—in other words, the PDA users were more than twice as active.

One surprise was the participants' positive response to the program's persistence. The PDA users liked the three additional "reminder" beeps that went off if they failed to respond to the first one. In fact, almost half of them wound up responding to the PDA only after being beeped for the fourth time.

"The PDAs can really keep on you," King observed with wry humor. "We were surprised by that; we thought by the time they heard the fourth beep, they might find it annoying and not respond at all."

The study targeted people interested in health changes, but with little if any knowledge of portable computer devices. During the eligibility screening, 93 percent said they had never used a PDA before. So there could have been difficulties in grasping the technology, or participants refusing to deal with it and giving up entirely. This, however, did not turn out to be a problem.

"They were very curious about PDAs, and that's why some of them signed up," King said. Several participants, she added, were aware of PDAs because their children were using the device, and so they wanted to learn more about the technology.

King and colleagues are also working with researchers from MIT, Northeastern University, Brown University, and Boston Medical Center to evaluate the ability of other types of computer-based, automated and interactive devices to help people change their health behavior.

So what's next, after PDAs? "Cell phones, for sure," King said. "Especially now that we have the iPhone; its big screen would be very useful for providing visual feedback." She and her colleagues are also continuing to focus on developing portable devices capable of interacting with accelerometers (activity monitors), so that the necessary information—for example, the amount of walking in a day—automatically transmits to the device.

"With the PDA study, evaluations made were based almost entirely on the participants' self-report," King explained. "We'd like our devices to be able to provide real-time feedback using objective activity as well."

In a companion study to be published later this year, King and colleagues have also evaluated the usefulness of PDAs in modifying dietary behavior. Results indicate that similar "probing" and feedback by a computer program—about a person's eating habits rather than activity level—can nudge participants

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toward increasing their vegetable and whole-grain intake.

“Physical activity is only one piece of the puzzle; another is dietary intake,” King noted. She would like to eventually harness the tracking power of GPS, so that willing participants, “if they’re walking past a Fresh Choice restaurant, can be prompted to go there instead of the fast-food outlet next door.”

Maybe that’s technical intervention, not divine—but it could be helpful, especially when you can’t get that vision of french fries out of your head.

King’s co-authors on the PDA study were David Ahn, PhD, research software developer; Cynthia Castro, PhD, research associate; and (CHP/PCOR associate) **Christopher Gardner**, PhD, associate professor of medicine at the Stanford Prevention Research Center.

No Evidence Growth Hormone Boosts Athletic Performance, Stanford Analysis Shows

March 17, 2008
By AMY ADAMS

STANFORD, Calif. — Athletes who risk their careers by taking banned growth hormone to improve performance may not be getting the benefits they’d anticipated, according to a new analysis by researchers at the Stanford University School of Medicine.

The team pooled data from previous studies in an attempt to summarize what’s known about growth hormone’s effects on athletic performance. Although this analysis may not reflect the way athletes actually take the drug illicitly, the lead author of the study, **Hau Liu**, MD, said with growth hormone in the news, it was a good time to scrutinize what was known about the drug.

Athletes’ use of growth hormone is banned by the International Olympic Committee, Major League Baseball and the National Football League. It is illegal to distribute the drug for the purposes of sports enhancement in the United States. Despite this, athletes have been accused in recent months of taking the drug to boost their strength and performance. One attraction to growth hormone as an athletic enhancer is that it is difficult to detect.

But growth hormone may not deliver the benefits some athletes expect. “What we saw is that while there was a change in body composition, that didn’t translate to an improvement in performance,” said Liu, who was a clinical scholar in endocrinology at the time of the study. The work will be published in the March 18 online version of the *Annals of Internal Medicine* and in print on May 20.

The group searched the medical literature as far back as 1966 looking for studies that tested the physiological effects of excess growth hormone compared with a placebo in healthy people. To be included, the studies had to be double-blinded—neither the participants nor the researchers could know which participants received growth hormone and which received placebo. They excluded studies involving people with growth hormone deficits caused by pituitary tumors or other conditions. In those people, bringing growth hormone up to normal levels does improve strength.

They found 27 studies with a total of 303 participants that fit the bill. When they combined data from these independent studies looking at the effects of growth hormone in healthy people, the picture it painted wasn’t good for growth hormone.

Overall, people who received growth hormone did seem to have more lean body mass, which is generally associated with more muscle. However, during exercise the people who got growth hormone in some of the studies generated more lactate—the by-product of exercise that can cause muscle fatigue. In one

study, two cyclists who received growth hormone weren’t able to finish a workout because of fatigue.

Only two of the studies with a total of 38 participants looked at muscle strength in people who took growth hormone; they took it for six weeks in one trial, and 12 weeks in the other. Despite having more lean body mass, the people didn’t appear to be any stronger after receiving the drug. Studies examining other measures of athletic performance, such as VO₂max, which is a measurement of how much work the muscles can do, also revealed no improvement.

“The key takeaway is that we don’t have any good scientific evidence that growth hormone improves athletic performance,” said senior author Andrew Hoffman, MD, professor of endocrinology, gerontology, and metabolism.

However, Hoffman urged caution in interpreting the data, given the embarrassment endocrinologists faced in the 1980s when they’d warned that testosterone had no performance-enhancing effects. Later studies testing doses at the levels athletes actually took clearly showed a performance boost from the drugs. With that in mind, the group is careful to warn that their findings only summarize the studies that have been done to date and may not represent the way athletes actually take the drugs.

The studies in this analysis examined people after only a single dose of growth hormone or up to three months of treatment; in all of the studies, the doses were lower than anecdotal reports of the doses athletes actually take. Athletes aren’t talking openly about how much of the hormone they take, but Liu said some estimates are that the illicit dose is as much as five times what was given in the studies. What’s more, athletes combine the hormone with other supplements, steroids, and increased training, all of which could alter the effects of growth hormone.

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“[W]e can show whether policies to restrict the supply of alcohol are effective at all. This is interesting beyond the specific Russian context. The United States and other countries like Sweden have tried prohibition but you always have the problem that people are very creative in circumventing government regulations.”

—Christina Gathmann

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regional variation in morality,” she explained. “Regions in the former Soviet Union differ substantially in their ethnic and religious composition as well as economic opportunities. Hence, it is no surprise that there are large variations in the amount of alcohol consumed in different areas.”

The challenge then is to figure out how much the campaign affected alcohol consumption in the different regions.

Aside from a few journalistic pieces and political science discussions about the campaign, it is hard to find quantitative data on how the campaign was implemented in different parts of the country.

The anti-alcohol campaign essentially started as a top-down decision from Gorbachev, made famous when he started as the President, since he was always drinking water while his other government officials had a preference for other beverages, according to Gathmann.

Gorbachev felt the need to do something about the drinking culture, especially due to the high mortality rates.

“Since we can’t open some database and find how much restrictions on alcohol consumption and distribution were enforced region by region, you have to look for some indirect measure of what’s going on,” Gathmann said.

“In particular, we want to exploit regional variation in the sales of alcohol in state stores, which were the

the only places that could sell alcohol at specified hours.”

Yet another indirect measure is the strength of the temperance movement that was active during the campaign: in particular, how many members were involved in the effort to convince people not to drink, hold community meetings on the issue, and spread information about the health risks of alcohol through leaflets and other materials.

“You would hope that the more people that are involved in a region, the more the campaign would take foot and the stronger the decline in alcohol consumption,” she said.

The researchers hope that the regional data presents a cleaner view of how the campaign may have influenced drinking behavior and hence mortality.

“Then, we could estimate how much of the increase in mortality since the late 1980s is a legacy of the past as opposed to the burden of economic transition alone,” Gathmann said.

She continued, “More generally, we can show whether policies to restrict the supply of alcohol are effective at all. This is interesting beyond the specific Russian context. The United States and other countries like Sweden have tried prohibition but you always have the problem that people are very creative in circumventing government regulations.”

The same happened in Russia. People began to start their own distilleries, forming a black market in the production of *samogon*, or moonshine.

“The main ingredient necessary for homemade alcohol is sugar,” Gathmann said. “When the sugar consumption increased dramatically during that time,

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it's probably not that people wanted to eat more chocolate or something like that, but to produce their own alcohol. The legal alcohol production goes down by 30 to 40 percent, but once you take into account the illegal alcohol produced, alcohol consumption might go down by much less."

Many also began resorting to alcohol in perfumes and other products, leading to a sharp rise in cases of alcohol poisoning.

These substitutions not only weaken the effect of the campaign, as some people will drink alcohol no matter what, but may also increase the health risks.

Gathmann explained, "The danger is that people then resort to alcohol that is often very poor quality, so the danger of drinking that kind of stuff are actually much higher than drinking legal alcohol."

However, the main problem facing Gorbachev's anti-alcohol campaign was financial. The government received more than 10 percent of its revenues from taxes on alcohol sales. Not only was the campaign extremely unpopular but the government also suffered from the sharp decline in revenues during the campaign.

Even though the anti-alcohol policy might have well been effective in increasing life expectancy, it was not itself sustainable. §

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Liu, who is now in the division of endocrinology and metabolism at the Santa Clara Valley Medical Center, said even if there's no physiological data that growth hormone helps performance, it may still give athletes an edge psychologically. If an athlete appears more muscular, the boost in self-confidence from that alone might be enough to spur them to hit the baseball farther or cycle faster.

"So much of athletic performance at the professional level is psychological,"



"Prisoner."
Bottle reads: "Samagon."



"Alcohol—Enemy of Production."



"This new outfit becomes me well."
Label reads "Juice: natural."



"Socially dangerous."

YURI MATROSOVICH COLLECTION

said Hoffman, who is also chief of endocrinology at the Veterans Affairs Palo Alto Health Care System. Liu and Hoffman said that to learn the effects of real-world growth hormone supplementation, they would first need to know how much of the drug athletes were taking and for how long, on average.

A large trial testing these doses in athletes would be difficult to conduct, they said. The side effects alone might make the trial ethically troublesome. The cost of growth hormone would also make the

trial expensive unless companies donated the drug, which is unlikely.

Other Stanford researchers involved in the work include senior research scientists **Dena Bravata**, MD, and Anne Friedlander, PhD; **Ingram Olkin**, PhD, professor emeritus of statistics; clinical fellows Vincent Liu, MD, and Brian Roberts, MD; medical fellow **Eran Bendavid**, MD, MPH; biostatistician **Olga Saynina**, MA, MBA; and **Alan M. Garber**, MD, PhD, the Henry J. Kaiser Jr. Professor. §

RESEARCH IN BRIEF

Regression to or toward the mean (RTM) is a phenomenon that refers to the tendency for a group of cases that differ from the population mean to move toward the mean when reassessed. While RTM has been discussed often in relation to studies evaluating medical interventions, there has been much less attention devoted to RTM in research on substance use disorder treatments.

CHP/PCOR associate **John W. Finney**, the director of the Center for Health Care Evaluation at the VA Palo Alto Health Care System, recently published an article that examines the RTM phenomenon as it can affect substance use disorder treatment research findings.

The article draws on Campbell and Kenny's book, *A Primer on Regression Artifacts*. They note that RTM is "a methodological artifact that is a tautological restatement of imperfect correlation." Two factors drive the magnitude of RTM: One is how extreme scores are on the initial assessment (i.e., by how much they deviate from the mean). The more extreme the initial scores, the greater the RTM on reassessment. The second is the magnitude of the correlation between scores at the initial and later assessments. The lower the correlation, the more the RTM.

Two factors can affect the magnitude of correlations. One is often thought of in relation to RTM: measurement error. However, correlations between initial and later assessments also can be reduced by variability in the true scores around some average level of functioning over time. Some conditions fluctuate rapidly (e.g., blood pressure) over time; others can fluctuate more slowly (e.g., depression, substance abuse disorders).

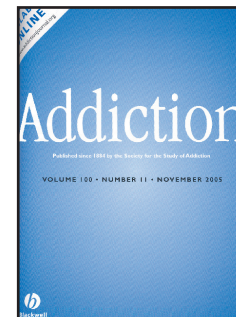
Such fluctuations around an average level of functioning operate in a way similar to measurement error around a "true score" to reduce correlations and produce RTM.

Although RTM should be equal for groups compared in randomized clinical trials and not affect between-group estimates of treatment effects, sometimes researchers will want to reduce within treatment/control groups. To reduce RTM due to measurement error or rapidly fluctuating conditions, multiple pre-intervention or initial assessments can be made, and these results can be averaged. For more slowly-fluctuating conditions, RTM can be reduced by using average functioning over a more extended pretreatment assessment window.

Finney's article considers how RTM is often not taken into account when researchers discuss within-group improvement and "placebo effects" in comparative treatment trials. The article also describes how "pseudo-treatment effects" can be generated by regression toward two different population means in matched groups analyses and analyses using covariate adjustment in naturalistic or non-experimental treatment studies.

Finally, the article argues that the decline of effect sizes in some meta-analyses of SUD treatment effects can be driven by the "extreme selection" of large effect sizes in early, small-scale studies, due to publication bias. The example is a meta-analysis of findings from studies of naltrexone, a medication for alcohol dependence.

Finney JW. Regression to the Mean in Substance Use Disorder Treatment Research. *Addiction* 103, no 1 (January, 2008):42–52.



RTM can have significant consequences

for health care policies, especially if a specific intervention improves things even when they might have otherwise improved on their own. "For example, if fatalities at a hospital fluctuate over time and then spike, and an intervention is put into place, it is likely that fatalities would decrease during the next reporting period," Finney said. The improvement likely would be attributed to the introduction of the intervention, but "one would not know how much of the improvement was due to RTM and how much due to the intervention."

"I think most people, when they get a new car, start noticing more of that same model on the road as they are driving. Similarly, if one becomes sensitized to RTM, one will start seeing it more frequently as a possible alternative explanation for findings in research reports," Finney said. "I would highly recommend Campbell and Kenny's *A Primer on Regression Artifacts* to anyone who wants to become more sensitized to, and learn more about, regression to the mean." §

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CHP/PCOR associate **John W. Finney** is a consulting professor in the Department of Psychiatry and Behavioral Sciences at Stanford. His research has focused largely on conceptually-driven, process-outcome evaluations of treatment programs for substance use disorder.

WINTER QUARTER PUBLICATIONS

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Burnette M, Lucas E, Ilgen M, **Frayne S**, Mayo J, Weitlauf J. Prevalence and health

correlates of prostitution among patients seeking treatment for substance use disorders. *Archives of General Psychiatry* 65, no. 3 (March 2008):337–344.

Burnette M, Ilgen M, **Frayne S**, Lucas E, Mayo J, Weitlauf J. Violence perpetration and childhood abuse among men and women in substance abuse treatment. *Journal of Substance Abuse Treatment* (January 11, 2008):EPub.

Emanuel EJ, **Fuchs VR**. Who really pays for health care? The myth of "shared responsibility." *The Journal of the*

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WINTER QUARTER ANNOUNCEMENTS

CHP/PCOR associate **David Gaba**, professor of anesthesia and associate dean for immersive and simulation-based learning, was the recipient of the 2007 Teaching Recognition Award for Achievement in Education from the International Anesthesia Research Society. The award is designed to recognize outstanding career contributions by senior faculty.

CHP/PCOR associate **Sara J. Singer** accepted a position as Assistant Professor in the Department of Health Policy and Management, Harvard School of Public Health and Assistant in Health Policy in the Institute for Health Policy, Mass General Hospital.

CHP/PCOR core faculty member **Mary K. Goldstein** was appointed director of the Geriatrics Research Education and Clinical Center.

Drew Altman of the Henry J. Kaiser Family Foundation paid a visit to CHP/PCOR this past quarter, talking with PCOR fellows and medical school students within the health services and policy research concentration. Altman shared his thoughts in a lively conversation on the current policy debate regarding the presidential candidates' proposals and what real reform looks like.

A number of new affiliates have joined CHP/PCOR recently, based on their collaborative work with the centers' faculty and researchers. They include: **Lisa Chamberlain**, MD, **Lynne Huffman**, MD, **Suephy Chen**, MD, MS, **Dean Wilkening**, PhD, **Gudmund Hernes**, PhD, **Christopher D. Gardner**, PhD, and **David Paltiel**, PhD.

HELLOS AND GOODBYES

CHP/PCOR said a fond farewell to research assistant **Tobias Rathgeb**. He has been a crucial part of the "Improving Safety Culture and Outcomes in Health Care" project, as well as several larger sponsored projects and grant applications.

Arek Manugian has joined CHP/PCOR core faculty member Mary K. Goldstein's ATHENA decision support system team. He attended nearby Los Altos High School before graduating from the University of California, Berkeley, in 2006 with a bachelor's in Molecular and Cell Biology. He is interested in aspects of health policy research that serve to improve healthcare quality. Arek will be assisting the team in launching and conducting a clinical trial of ATHENA-Hypertension in five medical centers in New England.

Tamara R. Chapman joins CHP/PCOR as a research assistant for the project "Support for Quality Indicators II: Emergency Preparedness Measures." She previously worked as a research associate for the Chemical and Biological Weapons Nonproliferation Program at the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies, where she focused on issues surrounding chemical and biological terrorism preparedness. She holds a bachelor's in biology from the University of California, Santa Cruz, and a master's in international policy studies from the Monterey Institute of International Studies.

Jacqueline Weiss graduated at the end of winter quarter from Stanford with a degree in Human Biology/Global Health and Human Rights. She has had experience doing research in India, working for Partners in Health in Boston, and recently working for Population Services International through the Stanford in Washington program. She will be working with CHP/PCOR core faculty member Paul Wise on international children's health from April until mid-June, at which point she will travel back to India with Project Read building libraries. She will start medical school at the University of Michigan in the fall. §

Publications, continued from page 8

American Medical Association 299, no. 9 (2008):1057–1059.

Finney JW. Regression to the mean in substance use disorder treatment research. *Addiction* 103, no 1 (January, 2008):42–52.

Forssas EH, Keskimäki IT, Antti R, Reunanen AR, Koskinen SV. Coronary heart disease among diabetic and non-diabetic people: Socioeconomic differences in incidence, prognosis and mortality. *Journal of Diabetes and Its Complications* 22 (2008):10–17.

Hartmann CW, Rosen AK, Meterko M, Shokeen P, Zhao S, Singer SJ, Falwell A, Gaba DM. An overview of patient safety climate in the VA. *Health Services Research* (2008):EPub.

Park WG, Yeh RW, Triadafilopoulos G. Injection therapies for variceal bleeding disorders of the gastrointestinal tract. *Gastrointestinal Endoscopy* 67, no 2 (2008):313–323.

Park WG, Triadafilopoulos G. Colonoscopy appropriateness: Education is important to identify the right patient, at the right time, for the right reason. *Gastrointestinal Endoscopy* 67, no. 1 (2008):94–96.

Seaver M, Freund K, Wright L, Tjia J, Frayne S. The lesbian experience of health care: A focus group analysis. *Journal of Women's Health* 17, no. 2 (March 2008):215–225.

Shortell S, Singer SJ. Improving patient safety by taking systems seriously. *The Journal of the American Medical Association* 299, no. 4 (January 2008):445–447.

Singer SJ, Edmondson AC. "When learning and performance are at odds: Confronting the Tension," in *Learning and Performance Matter*, Kumar P and Ramsey P, Eds., (New Jersey: World Scientific Books) 2008 (also available as HBS Working Paper No. 07–032).

Smith MW, Barnett GP. Economics of implementation, a case study of QUERI. *Implementation Science* 3 (March 2008).

Soetikno RM, Kaltenbach T, Rouse, RV, Park W, Maeheshwari A, Sato T, Matsui S, Friedland S. Prevalence

Publications, continued on page 10

WINTER PRESENTATIONS

M. KATE BUNDORF

CHP/PCOR faculty fellow

"Pricing, Matching and Efficiency in Health Plan Choice"

Presented at the ASSA Annual Meeting, New Orleans, LA, January 6, 2008.

"Do Markets Respond to Quality Information? The Case of Fertility Clinics"

Presented at the University of Pennsylvania, Pennsylvania State University, January 28, 2008.

ALAIN C. ENTHOVEN

CHP/PCOR core faculty member

"Managed Competition 3.0"

Presented to America's Health Plans Executive Leadership Summit, marking the 30th anniversary of Enthoven's publication, "Consumer Choice Health Plan: A proposal for universal health insurance based on regulated competition in the private sector," in Phoenix, AZ, February 8, 2008.

"The CED Proposal for Universal Health Insurance based on Managed Competition in the Private Sector"

Presented a Congressional Staff Briefing to congressional staffers in Washington, D.C., March 10, 2008.

GRANTS AWARDED

"Emergency Preparedness Indicators"

Funding: Battelle (with AHRQ funding)

Principal Investigator: **Kathryn M. McDonald**

Project Period: January 1, 2008 to September 30, 2009

"Sources of Health Care Cost Growth"

Funding: Robert Wood Johnson Foundation

Co-Principal Investigator: **M. Kate Bundorf** (with Anne Royalty)

Project Period: 2008 to 2009

"Anxiety, Depression, and Asthma in Puerto Rican Youth"

Funding: University of California, Los Angeles

Principal Investigator: **Sally M. Horwitz**

Project Period: August 1, 2007 to July 31, 2008 §

SUSAN M. FRAYNE

CHP/PCOR associate

"Length of Stay Calculations: Effect of Algorithm Choice"

Poster presented at the VA HSR&D National Meeting, February 13, 2008.

"A Veteran's Affair: Examining the Social, Economic, and Biomedical Impacts of War"

Presented at the Stanford student-initiated course (Med24SI) at Stanford University, February 20, 2008.

"PTSD-Related Disparities in Processes of Obesity Care in Diabetics"

Poster presented at Society of General Internal Medicine California Regional Meeting in San Francisco, CA, March 1, 2008.

"Medical Needs of Women and Men OIF/OEF veterans with PTSD"

Presented to Forum Conference, Center for Healthcare Evaluation, March 11, 2008.

MARY K. GOLDSTEIN

CHP/PCOR core faculty member

"Helping Physicians with Evidence-Based Practice through Automated Clinical Decision Support: ATHENA-Systems for Hypertension, Chronic Pain Management, and Beyond"

Presented at Geriatric Grand Rounds Educational Conference, Kaiser Santa Clara, January 22, 2008.

"Clinical Decision Support as a Component of Quality Improvement: ATHENA-Hypertension and ATHENA-Chronic Pain"

Presented in seminar at Stanford Prevention Research Center, January 24, 2008.

Bioterrorism, continued from page 3

to recognize the "U.S. vulnerability to manmade and natural disasters," according to Bravata.

"We're trying to develop standards in the same way that there are standards for how to do cost-effectiveness analysis and meta-analysis for disaster modeling," Bravata said. "So I think that's one way that our work is affecting policy. We also hope that our work affects the decisions of bioterrorism planners—local department planners, hospitals, etc.—when they try to figure out what decisions to make." §

"Group Medical Visits: Approaches to their Implementation and Evaluation"

Participated as faculty in workshop at the VA HSR&D Annual Meeting in Baltimore, MD, February 14, 2008.

"New Methods for Performance Measurement in Hypertension: Results from an Expert Panel"

Presented with co-author Dr. Michael Steinman at VA HSR&D Annual Meeting in Baltimore, MD, February 15, 2008.

"Healthcare Informatics Research"

Moderated session at VA HSR&D Annual Meeting in Baltimore, MD, February 15, 2008.

"Older Veterans"

Stanford class presentation for course (Med24SI) at Stanford University, February 27, 2008.

KEITH N. HUMPHREYS

CHP/PCOR associate

"Is it in Medical Centers' Economic Interest to Provide Drug Dependence Treatment?"

Presented at the International Society for the Study of Drug Problems, Lisbon, Portugal, April 4, 2008.

MARK W. SMITH

CHP/PCOR associate

"Comparing Outpatient Cost Data in the DSS National Pharmacy Extract and the PBM Database."

Presented at U.S. Department of Veterans Affairs Health Services Research and Development Service 25th National Meeting in Baltimore, MD, February 14–15, 2008. §

Publications, continued from page 9

of nonpolypoid (flat and depressed) colorectal neoplasms in asymptomatic and symptomatic adults. *The Journal of the American Medical Association* 299, no. 9 (March 5, 2008):1027–1035.

Tucker AL, Singer SJ, Hayes JE, Falwell A. Front-line staff perspectives on opportunities for improving the safety and efficiency of hospital work systems. *Health Services Research* (2008):In Press.

Zaric GS, Bravata DM, Holtz J-EC, McDonald KM, Owens DK, Brandeau ML. Modeling the logistics of response to anthrax bioterrorism. *Medical Decision Making* (2008):In Press. §

RESEARCH IN PROGRESS SEMINARS

Free and open to the public, the spring quarter seminars will be held at the **Health Research & Policy Building (Redwood Building), Room T138-B** on **Wednesdays, 1:30 pm – 3:00 pm**. Please visit the event series webpage for the most up-to-date session information.

WINTER 2008 SESSIONS

January 9, 2008

The Overlooked Orphans: The Size of the Impact of AIDS on the Orphaned Elderly in sub-Saharan Africa
Tim Kautz, Stanford University Student
Jay Bhattacharya, MD, PhD, CHP/PCOR Core Faculty
Grant Miller, PhD, MPP, CHP/PCOR Core Faculty

January 16, 2008

Anatomy of a Guideline: The Making (and Remaking) of the New American College of Physicians' Guideline on Screening Mammography in 40- to 49-year-old Women
Douglas K. Owens, MD, MS, CHP/PCOR Core Faculty

January 23, 2008

The Prevalence, Correlates, and Persistence of Maternal Depression: A Services Failure?
Sally M. Horwitz, MA, PhD, CHP/PCOR Core Faculty

January 30, 2008

Implementation Research: Finding Out What Actually Works in Translating Research into Practice
Mary K. Goldstein, MD, MS, CHP/PCOR Core Faculty

February 6, 2008

Improving the Quality of Heart Failure Care: Interventions to Increase Beta-Blockers Use
Paul A. Heidenreich, MD, MS, CHP/PCOR Faculty Fellow

February 13, 2008

Economic Incentives, Diffusion of MRI & CT, & Social Welfare
Laurence C. Baker, PhD, CHP/PCOR Faculty Fellow

February 20, 2008

What Can Be Done with \$15 Billion? An Evaluation of PEPFAR in Africa
Eran Bendavid, MD, CHP/PCOR Trainee

February 27, 2008

The Benefits and Costs of Health Plan Choice: The Case of Medicare Part D Prescription Drug Plans
M. Kate Bundorf, MBA, MPH, PhD, CHP/PCOR Faculty Fellow

March 5, 2008

Physician Training and Patient Outcomes: Results from a Natural Experiment
Todd H. Wagner, PhD, CHP/PCOR Faculty Fellow

March 12, 2008

Can Equity Concerns Be Incorporated in Cost-Effectiveness Analyses?
Ahmed Bayoumi, MD, MS, former CHP/PCOR Trainee

March 19, 2008

Inequality in Life Expectancy
Victor R. Fuchs, MA, PhD, CHP/PCOR Core Faculty
Hal Ersner-Hershfield, Stanford University Student



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SPRING 2008 SESSIONS

April 2, 2008

Changes in U.S. Hospitalization and Mortality Rates Following Smoking Bans
Kanaka Shetty, MD, CHP/PCOR Trainee

April 9, 2008

A Cost-Benefit Analysis of Preimplantation Genetic Diagnosis for Carrier Couples of Cystic Fibrosis
Lynn B. Davis, MD, CHP/PCOR Trainee

April 16, 2008

Health Insurance for the Poor in Latin America: Experience with Colombia's "Subsidized Regime"
Grant Miller, MPP, PhD, CHP/PCOR Core Faculty

April 23, 2008

Evaluating the Effects of Bariatric Surgery on Sleep
Dena M. Bravata, MD, MS, CHP/PCOR Senior Research Scholar
Jon-Erik Holtz, MD, former CHP/PCOR Trainee

April 30, 2008

Cost-Effectiveness of Treatments for Age-Related Macular Degeneration
Swati Tole, MD, CHP/PCOR Trainee

May 7, 2008

Impact of Tumor Volume Doubling Time and Breast Density on Mammography Sensitivity in Women Ages 40 to 49 Years
Stephanie Bailey, PhD, Fellow in the Department of Radiology, Stanford University

May 14, 2008

Life Expectancy and Education Investments: Evidence from Maternal Mortality Declines
Seema Jayachandran, MA, PhD, Assistant Professor in the Department of Economics, Stanford University

May 21, 2008

To Be Announced
Sean Young, Stanford University Student

May 28, 2008

To Be Announced
Margaret L. Brandeau, PhD, CHP/PCOR Faculty Fellow

June 4, 2008

Public Health Strategies for the Next Influenza Pandemic
Nayer Khazeni, MD, Student in the Department of Health Services Research, Stanford University §

the CENTER FOR HEALTH POLICY and CENTER FOR PRIMARY CARE AND OUTCOMES RESEARCH

The Center for Health Policy and the Center for Primary Care and Outcomes Research are sister centers at Stanford University that conduct innovative, multidisciplinary research on critical issues of health policy and health care delivery. Operating under the Freeman Spogli Institute for International Studies and the Stanford School of Medicine, respectively, the Centers are dedicated to providing public- and private-sector decision makers with reliable information to guide health policy and clinical practice.

CHP and PCOR sponsor seminars, lectures, and conferences to provide a forum for scholars, government officials, industry leaders, and clinicians to explore solutions to complex health care problems. The centers build on a legacy of achievements in health services research, health economics, and health policy at Stanford University. For more information, visit our web site at <http://healthpolicy.stanford.edu>.

ABOUT