

DISEASE PREVENTION AND HEALTH POLICY

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EDITOR'S REMARKS

The spread of the H1N1 virus has brought disease prevention and response to the forefront of our international discourse. It took mere days for the particular strain of the flu to cross national boundaries and traverse oceans. The pandemic's rapid expansion caused many health professionals to question how the government could better respond to future health disasters, such as pandemics and bioterrorism. This year's edition of the *Georgetown Public Policy Review* offers several perspectives on that debate. Our contributors address a wide range of issues from the role of media in the spread of disease to the successful development of a national health care system.

The members of the *Review* staff gathered interviews from health professionals with many different perspectives on how to prevent various health disasters. The featured authors in this edition provided insightful articles concerned with disease prevention, bioterrorism, and other health concerns. On behalf of the *Georgetown Public Policy Review*, I would like to thank the authors for the countless hours they have spent on their articles and giving us the opportunity to share their research.

Along with our focus on health care, we have been granted the opportunity to publish a joint project between the Economics Department of the Communist Central Party School in China and the China Delegation of Georgetown University. The authors, Chen Qiqing from the Central Party School, Carl Dahlman from Georgetown University, and Dale Henderson from Georgetown University, reviewed the causes of the financial crisis and possible solutions that the United States and China can undertake to prevent future crises in their article *The US, China, and Global Imbalances: What Has Happened and What Should Be Done?*. This article represents the first joint research publication between the Communist Central Party School of China and Georgetown University. We are very privileged to have the opportunity to publish this joint venture, and thank the authors for the opportunity. I would also like to thank William Gormley, who greatly helped the *Review* with this project.

This year's edition has featured an enormous commitment by all of the staff at the *Georgetown Public Policy Review*, and I want to provide my thanks to all the entire *Review* staff for their hard work. On behalf of *The Georgetown Public Policy Review*, I extend our deepest gratitude to our advisors and faculty allies, Mark Nadel, Jinny Amundson, and Joe Ferrara, for their invaluable oversight and support. My sincerest thanks go to Executive Print Editors Brent Wisner and Rory O'Sullivan and the

entire print staff who have worked hard all year to produce this year's issue. I also want to thank Managing Editor Kristin Thorpe, Executive Online Editor Matthew Gyory, and Executive Business Director Anthea Medyn for the countless hours they have volunteered for the *Review* to guarantee this year's successful publication. Finally, I want to thank every member of the *Review* staff for the work they have done putting out this year's edition of the Review, as well as the many articles posted with the *Georgetown Public Policy Review's* Online Edition.

Justin Kasprisin

Editor-in-Chief

THE BIOTERRORISM THREAT AND MEDICAL RESPONSE

*An Interview with Jeffrey W. Runge, MD,
of the Chertoff Group*

By Heather Vaughan

Dr. Jeffrey W. Runge is a principal at the Chertoff Group, where he focuses on biodefense strategy and countermeasures, medical preparedness and emergency medical care, road transportation safety, and injury prevention and control. He was appointed the first Chief Medical Officer at the U.S. Department of Homeland Security in 2005 and served as the Administrator of the National Highway Traffic Safety Administration from 2001 to 2005. Prior to joining public service, Dr. Runge worked as an emergency medicine physician for nearly 20 years.

GPPR: The Bipartisan Congressional Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism released a report card in January that identified bioterrorism as the most likely threat to the United States. They gave the government a failing grade on their ability to prevent mass casualties from a biological attack. Moreover, they claim that it is likely we will face a biological weapon of mass destruction (WMD) before the end of 2013. Do you agree with their assessment?

Dr. Runge: I don't know that anybody can set a time frame on bioterrorism. One of the things I think that the American public fails to appreciate is that this is a very patient enemy. So the timing of this is completely unpredictable. The disturbing thing is that the capability to execute a bioterrorist attack is already there. It's not like we're waiting for them to get highly enriched plutonium for an improvised nuclear device—we know that the ability to deliver a crude biological weapon exists right now. It is incumbent upon us to prepare right now; I don't believe we have until 2013.

What would you say our current preparedness is for biological threats? Do you agree with the WMD Commission that we are failing in this area?

To me, this is pass-fail. You're either prepared, or you're not prepared.

We have significant infrastructural vulnerabilities to biological weapons. We do not have an effective surveillance system in place. We have a crude and partially deployed environmental detection system. As a government, we have done a little bit of work in environmental remediation, but we still don't have a decontaminant that kills on first pass and is not highly corrosive and damaging.

We have significant infrastructural vulnerabilities to biological weapons. We do not have an effective surveillance system in place. We have a crude and partially deployed environmental detection system.

Additionally, I don't have a tremendous amount of confidence that we can effectively deliver medical countermeasures. We have only a crude first-generation vaccine for anthrax. Work on the plague vaccine has wound down. For the other significant threats—*Burkholderia* and botulinum—we are still way behind in providing medical countermeasures. Even if a biological threat can be mitigated with the use of antibiotics, I don't think we can

get them out in time. I also don't have complete confidence that there will be a great deal of compliance with taking post-exposure antibiotic prophylaxis.

Why is bioterrorism more likely to be deployed than more traditional weapons?

The way I think about this is that Al Qaeda has claimed a right to kill four million Americans. The only way to do that is through some weapon of mass destruction.

If you think of a graph with ability to execute a threat on the Y-axis and destruction caused by an event on the X-axis, you can imagine that most of the points on that grid would fall in the low range on both measures. A suicide bomb is relatively easy to execute and has fairly low consequences in terms of lives lost.

If you consider a nuclear detonation on the other hand, it is very high-consequence, but also very difficult to execute and fairly unlikely, because we think we know where the tactical nuclear weapons and active fissile material are located.

So the things we must be most concerned about are high-consequence threats that can be developed and deployed relatively easily. The bacteria *Bacillus anthracis* is naturally occurring, for instance. It causes anthrax in humans, which is usually fatal when the bacterium has been inhaled. It's not detectable in your pocket when going through airline security, unless you happen to get patted down. It is not

difficult to get it into the U.S. or even to grow it here.

What kinds of medical concerns could we predict from a biological attack?

If we were to imagine a scenario with anthrax, it could be carried out without sophisticated weapons. *Bacillus anthracis* doesn't require a weaponized form to wreak havoc. It can be spread with typical agricultural sprayers.

Our nightmare scenario is having this occur in a strategically important U.S. city with eight million people. Even if we had an advanced vaccine, we don't have the capacity to mass-vaccinate. If there were four million exposures to anthrax, about 250,000 people would probably contract the disease, and without prophylaxis, they would all die. If we did have prophylaxis, there would still be a percentage of people close to the source who couldn't be saved by anything. There would also be people who didn't respond and would require intensive care and a ventilator. Very quickly in a city like New York or Chicago or Denver or Houston, we would consume the entire stock of ventilators and intensive care beds. If this occurs, we simply can't save everybody. We have not leveled with the American people about that.

It seems that there are a wide range of competing responsibilities for securing the U.S. against bioterrorism—a lot of federal agencies each have a little piece of the mission. Your office in the Department of Homeland Security (DHS) was created in part to help resolve that. Is the division of responsibility problematic?

When I joined DHS, there was no Chief Medical Officer—I was the first one. We set up the Office of Health Affairs under the authority of the Chief Medical Officer. The Science and Technology Directorate had no protocol for transferring biodefense technology once it reached a certain technical readiness level because there was no receiver for the operational deployment. So one of the jobs of the Office of Health Affairs was to be the operational arm of the Department for biodefense.

So, the things we must be most concerned about are high-consequence threats that can be developed and deployed relatively easily.

The other operational area for biodefense is the National Biosurveillance Integration Center. When the idea for the National Biosurveillance Integration Center was first hatched, all the relevant players around government were in the room, and they were feeling pretty good about the idea. What happened is a matter of some debate, but essentially, it became strictly a DHS program so the other federal agencies felt they lost ownership and consequently lost interest in it.

Getting them back was very difficult. This program is emblematic of the DHS conundrum—they have responsibility for coordinating the interagency response, but no authority to do it. Even though the National Biosurveillance Integration Center was authorized in the 9/11 Act, there was

no mandate for other departments to participate. We needed the Department of Agriculture to cooperate and take responsibility for animal health, for the Centers for Disease Control to take responsibility for human health, and for the Food and Drug Administration to take responsibility for food safety. Although Secretary Chertoff sent a letter to his Cabinet counterparts asking them to detail personnel to the Center and be integrated into the system we built, it didn't happen. This is a demonstration of a situation where you're given responsibility by Congress to execute a mission but no authority to do so, and therefore it doesn't happen.

Even though the National Biosurveillance Integration Center was authorized in the 9/11 Act, there was no mandate for other departments to participate.

There is still a great need out there for integrated biosurveillance for animal health, human health, food, water and the environment. The department will continue to try to make it happen but remains dependent on the commitment of other agencies and the involvement of the private sector.

What are some of the policies you think could improve the coordination and the budgeting authority?

Our job at DHS was to integrate a diverse group of assets into a single asset focused on homeland security. While the Homeland Security Act provided

sufficient authorities for the Secretary to integrate assets that were transferred from other departments, no authorities were given to get the commitment of assets important to homeland security that remained in other departments.

At the basis of the policy conundrum is that the oversight for homeland security in Congress is distributed over at least 80 committees. A lot of that has to do with the fact that there are over \$4 billion in homeland security grants, and all 435 Members of Congress and 100 Senators want some authority over those grants. That has to be fixed. Both the legislative and executive branches need to take leadership to remedy this. If we're going to have a Department of Homeland Security, the Secretary needs to have the necessary budget authority across the federal spectrum to execute her responsibilities, and that's lacking right now, in my opinion.

What are the most important policies needed to fix these issues? Is it consolidating authority within Congress? Is it getting leadership within the White House?

All of the above. Before we try to deal with the problem of congressional oversight, it is important for the Executive Branch to decide how to interact. There is significant confusion within the federal government about what each agency has responsibility for.

An example of this occurred when melamine-contaminated wheat gluten was imported and made its way into pet food and animal feed. It demonstrated our biggest policy issue: DHS lacked the authority to impose itself on

issues that have traditionally belonged to other departments. No one knew for sure at the time if this was a test run for terrorists, or if it was just greedy exporters criminally elevating nitrogen content to increase the value of their product. That sort of investigative operation is outside the scope of the FDA or the USDA, yet DHS can only request to be involved.

So, not only do we need policy changes to confer the necessary authorities, but we need to change the way we do business to be smarter and use different sorts of intelligence which traditional agencies aren't yet using.

With respect to what can we do right now to make DHS's job easier, the first thing is for other federal agencies to acknowledge what DHS's job is, and what it isn't. Next, they must share resources and information to a greater degree than is happening right now. The House Homeland Security Committee doesn't have the authority to do that either. Energy and Commerce claims jurisdiction over health matters and the Agriculture Committee claims jurisdiction over agricultural matters. So, in many ways, the primary oversight committee is in the same situation as the department—they are unable to garner all the authorities necessary to execute their mission. I believe a similar situation exists in the Senate. I hope that some future House speaker and Senate leader will see the wisdom of effective, consolidated oversight for homeland security and will use their powers to fix the problem.

What is the status of our medical response? There were two issues that arose when H1N1 came along. First, we couldn't seem to develop vaccines fast enough, and second, there was a lot of resistance to actually taking the vaccine.

Yes, that's exactly right. President Bush met with vaccine manufacturers, and I was told that when he asked them what they needed to develop a robust vaccine manufacturing capacity to the U.S., they said they needed two things: liability protection and a big order. And that's what they got from HHS. So the U.S. did begin to regain the capacity to produce these vaccines. We still need a greater level of government investment in new-generation recombinant vaccines—and the government needs an intrinsic, organic way to produce these new biologicals without being totally dependent on the good will of the private sector.

With respect to what can we do right now to make DHS's job easier, the first thing is for other federal agencies to acknowledge what DHS's job is, and what it isn't.

The second issue is that people need to have confidence in the information coming from health officials. In the case of H1N1, people began contracting the disease in April in Mexico, and Americans were told that there would be a vaccine in time for the fall wave. There was significant political

pressure to assure the public that the vaccine was going to be available by the beginning of October. While it may be nice to be reassuring, unless one's planning assumptions are close to correct, contingency planning is very difficult. So not only did people lose faith in the government's ability to deliver on a promise, our critical infrastructure institutions, like emergency departments, were madly planning for surge requirements under false assumptions.

I can't emphasize enough that over the next few years we simply must bring new vaccine technology into routine use for both design and manufacture.

It makes it tough then, when the vaccine does arrive, to make the case that even though you are not sick, you need to pay your \$25 and take off work to go get vaccinated. The public will decide for itself whether it will comply, and the smallest violation of their confidence does not help compliance.

I can't emphasize enough that over the next few years we simply must bring new vaccine technology into routine use for both design and manufacture. Because many of the vaccines we may need for biodefense purposes are not in commercial demand, there must be greater investment by the government in the research and advanced development to get this done.

Based on threat assessments that DHS has provided to be the basis for requirements for medical countermeasures, we have at least a \$3 to \$5 billion requirement for advanced development. The government is the only customer for these products, and the government therefore has to keep them moving through the R&D pipeline. There has traditionally been good investment in basic research, but when the basic research is done, there is no money to get these products through the so-called "valley of death" of the advanced development stage.

So, if basic research produced a viable vaccine for a biological threat, there is no established means of getting it from the research stages through commercial development?

If the civilian side of the government is the only customer, there are no effective means to do so.

Large private-sector drug companies aren't going to use their resources to develop drugs or biologicals for a few hundred million dollars when that same capacity can be used to develop billion-dollar drugs, and we should not expect them to. The "common defense" is the government's responsibility, and if we take the threat seriously, we need to step up to the plate.

The PAHPA Act (The Pandemic and All-Hazards Preparedness Act) created the Biomedical Advanced Research and Development Authority (BARDA) to help shepherd these products through, but Congress never made the funding investment necessary for the agency to carry out its mission. The people

at BARDA are trying really hard to get this done. They've recruited some people from industry that really know how to manage these processes, but they're never going to get there unless there's the necessary funding to enable the government to reach the point where these products can be produced and procured.

It is important to look at this issue holistically. It's not just about getting countermeasures into the stockpile. The goal is not to stockpile, but to get countermeasures to people when they need them in the wake of a disaster. Right now, we have a policy of distributed responsibility when it comes to the delivery of medical countermeasures. The federal government's responsibility is to procure and store the necessary countermeasures, and to deploy them to the states. It is then a state and local responsibility to get the antibiotics to every man, woman, and child within a designated time frame. So it's no surprise that some communities are more prepared than others. In my view, this should not be the responsibility of local health providers. It is an issue of national security—the job of the federal government is to provide for the common defense. Providing medical countermeasures is part of the common defense.

My colleague, Dr. Bob Kadlec, uses this analogy to describe our preparation for bioterrorism: it's like saying to the mayor of New York, "We're going to give you some radar and some anti-missile technology. If you pick up an incoming intercontinental ballistic missile, just shoot it down."

Of course, we would never delegate such responsibility for military threats to local communities, but we have done exactly that for the response to bioterrorism. I believe the civilian sector looks at this as a health threat rather than an existential weapon of mass destruction.

Are all of the local responders prepared for that kind of responsibility? For instance, emergency responders, like police and fire departments, may or may not have training in providing this kind of response. What about hospital personnel?

A very small fraction of medical practitioners—whether doctors, nurses or administrators—have preparation in emergency response. Let's face it—99% of the health care in this country is delivered by the private sector. And yet, it is a public health responsibility to perform in the event of a bioterrorism event. I would wager that if you do an analysis of how well the private-sector medical community is integrated into the public health response network of our moderate-size cities, you would find a tremendous disparity. Although we have come a long way since the DHS Office of Health Affairs and the Assistant Secretary for Preparedness and Response at HHS were set up, our Federal leadership is still fragmented and local responders get divided messages.

There is, I believe, about \$4 billion in grants that go out to local communities for the purposes of homeland security. The grants have been so flexible and fungible and there have been issues

with so few threat-specific requirements that it is difficult to measure how much more prepared we are for certain threats than we were before the grant programs. I fear that in many cases, the grant money is simply supplanting money that had traditionally been supplied by local governments to buy equipment that they otherwise would have bought themselves: fire trucks, police cars, and so on.

I think it's the job of the federal government to be good stewards of our money and to spend it on the purposes for which it was intended.

If you look at the equipment lists of products eligible for DHS grants, you can buy epinephrine and cardiac arrest drugs with DHS grant money that clearly have nothing to do with homeland security. I think it's the job of the federal government to be good stewards of our money and to spend it on the purposes for which it was intended. People who pay taxes to improve their state of homeland security should expect that we are following a plan, and that we should be reaching additional capabilities than we had before—we should be able to perform actions that we couldn't before. I'm not sure that that is true in every case.

I do think we're dramatically better off than we were before, but everybody needs to be focused on the mission.

RESOURCES

1. From the CDC: Melioidosis is an infectious disease caused by the bacterium *Burkholderia pseudomallei*. It can be fatal and has symptoms similar to those of bronchitis and pneumonia.
2. From the CDC: Botulism is a serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum*.

IMPROVING THE QUALITY OF HOSPITAL CARE

*An Interview with Stephen Mayfield, Beth Feldpush,
and Nancy Foster of the American Hospital Association*

By Jesse McCormick

The *Georgetown Public Policy Review* had the opportunity to interview three members of the American Hospital Association's (AHA) Quality Center. Stephen Mayfield serves as Senior Vice President for Quality and Performance Improvement for AHA Quality Center. Beth Feldpush is the Senior Associate Director, Quality and Patient Safety Policy. Nancy Foster serves as the Vice President for Quality.

GPPR: As I understand it, the American Hospital Association (AHA) Quality Center houses the strategies and implementation tools to improve quality of care in the hospital setting. Can you describe in a bit more detail the mission and operation of your organization?

Steve Mayfield: Hospitals in Pursuit of Excellence (HPOE) is an AHA-wide strategic platform that endeavors to accelerate hospitals' efforts to improve performance through the diffusion of tools, resources, and information that can improve care. The HPOE platform is one in which we promote proven practices, engage the field in improvement activities and work to anticipate emerging topics. While HPOE is operationally oriented, it has strong ties to policy, and it helps me to put it in terms of what some call the "policy cycle." Policy should influence legislation, which in turn helps to shape regulation, which in turn affects operations. This is an iterative cycle. Operations should then be used to help inform policy decisions.

Nancy Foster: As a point of clarification, we, meaning the AHA, tend not to deal at the state policy level. We prefer to let that be the purview of state hospital associations. This is true except where there is national movement. Then, we often work to help facilitate communication and understanding across the board. A lot of the work we do at the state level centers on infections, for example, as many states have ongoing data collection efforts and, it is helpful to be able to coordinate across such efforts.

Basically, we are striving for high reliability in these processes. But every time you add a step, you increase the potential for reducing quality and reliability.

The AHA Quality Center obviously deals with many important issues. Can you speak to the work you are doing on hospital-acquired infections (HAIs)?

Nancy Foster: There are some broadly identified tools that are helpful to deal with infections: the surgical checklist, practices to reduce infections in central lines, the Keystone Project in Michigan, etc. We work at both the broad-based adoption level and in discovering the tools and strategies that help hospital systems on their journey towards better quality. In our D.C. office, we work specifically on infections as they relate to required measurement and metrics. As Beth likes to say, we are in the process of engaging members to help them help themselves and their patients.

So would it be fair to say that the AHA Quality Center searches for current practices that can be widely disseminated and used to influence policy development?

Steve Mayfield: I think so. For instance, Johns Hopkins paved the way for some important improvements in patient care with the use of checklists and ventilator bundles. There is now underway a national effort known as the Comprehensive Unit-Based Safety Program

(CUSP) model, which supports efforts to reduce hospital-acquired infections and complications. While the CUSP program traces its origins to Johns Hopkins, it has grown drastically and expanded to many new areas. It was first picked up by Michigan, followed by 10 other states. Recently, the Department of Health and Human Services picked it up. This is a great example of operations in the field demonstrating success, being diffused across the country, and impacting policy.

From your perspective, is there going to be a silver bullet we eventually find to solve the problem of hospital-acquired infections? Or will multi-level solutions be required?

Steve Mayfield: There are potential solutions, of course, but health care is a complicated and complex field, so I don't think there is going to be one answer. The reason is that there are thousands of interactions that go on during a simple stay at a hospital. Everything is very granular. Basically, we are striving for high reliability in these processes. But every time you add a step, you increase the potential for reducing quality and reliability. Often we see hospitals reducing the complexity of patient workflows, and we see great results. When we standardize processes and improve communication regarding individual roles, we see meaningful improvements. It is simple to have a checklist, but daunting to bring together the broad spectrum of caregivers needed to offer quality care. It is a tough balancing act.

Nancy Foster: With regard to infections, the literature is replete with examples of folks who have tried one thing that didn't make any difference, or as much. But germs are hard to combat, and we need to be vigilant. Hospital systems that have done multiple things in unison—practicing to evidence, engaging in active hand hygiene projects, using a checklist—have gotten measurable results.

Beth Feldpush: What we have seen is that while the tools or techniques might be common for reducing HAIs, implementation in one setting is very different than in another. What works for caregivers in one setting may be very different than in another. The same tools can be used across the country, but they have to have the flexibility to be tailored to the specific environment in which they are being utilized. That is a capacity we need to build into our tools and our hospital systems. So, while there are great tools that we can utilize, there are not strict best practices that can be copied-and-pasted into new settings.

Some of you just mentioned that different organizations are motivated by different factors. Where does the impetus for this focus on improvement come from?

Steve Mayfield: I strongly believe, and see this in other fields, that leadership is where it starts. The triad of governance (or trustees), hospital administration, and physician leaders needs a clear vision. Moreover, this vision needs to be communicated. So it starts with

leadership, but it actually happens on the front lines.

Nancy Foster: The complexity of building a culture that supports safety is not to be underestimated. Some CEOs have said, "I get it, now tell me how I do it." I heard one CEO say about this transition, "It is easier for people to act their way into a different way of thinking than think their way into a different way of acting." So what can we do to promote a new culture that drives safety? That question has yet to be answered in my opinion.

There is a lot of evidence about overuse of antibiotics, but it is not clear what to do about it.

Let me change the direction a little bit here. Does the AHA Quality Center have plans to expand to the area of antibiotic resistance in the future? I ask because MRSA has been getting a lot of attention recently as a seriously problematic infection.

Nancy Foster: We are not looking at it in any particular way, but the issue is of growing national concern. We do keep in close contact with the Centers for Disease Control and have had interesting talks with organizations representing primary care organizations. There is a lot of evidence about overuse of antibiotics, but it is not clear what to do about it.

It seems to me that public reporting of data, and the transparency movement more generally, has recently gained momentum. But is merely asking people to report data and publishing the results enough? Is asking the questions enough? What other steps do you think need to be taken, if any?

Beth Feldpush: What we have seen in tracking progress on Hospital Compare, our website that compares hospital compliance across various metrics, is that there has been tremendous improvement across hospitals in the measures we report. The national averages have moved up and continue to move up. There are some measures, like aspirin on arrival, that I think will top out eventually. But for now, they continue to rise. Importantly, those hospitals at the lowest baseline have moved up the fastest. Judging from this, these improvements exceeded national expectations.

Importantly, those hospitals at the lowest baseline have moved up the fastest. Judging from this, these improvements exceeded national expectations.

Nancy Foster: There truly has been remarkable progress, progress of which we are very proud. Many hospitals are also keeping track of information about infection control and quality improvement internally. They may not be using nationally collected measures, but they are doing the things that they believe will reduce infections for them.

There seem to be two additional issues with data collection. First, the difference between outcome measures and so-called process measures that affect the outcomes. Which are more important to measure? What makes capturing the necessary information difficult?

Beth Feldpush: The AHA is a founding partner of the Hospital Quality Alliance, a public-private coalition of hospital associations, clinicians, employers, purchasers, consumers, and government agencies. We are working together to develop a set of standard national quality measures. One national set would provide a lot of clarity. Measures that assess the same attribute, but do so in a slightly different way, can have different results, and this is very confusing. Look at aspirin on arrival, for example. Two different measures may show that a hospital has a score of 96% vs. 94% compliance. How do we interpret that? We don't know unless they were measured using the same system. Moreover, how do we improve? The Hospital Quality Alliance has been working for five years now towards strengthening this clarity and uniformity. We eventually want to cut through the din and have one uniform set.

Nancy Foster: I believe that both process and outcomes are important. It is best to have both. Process measures help hospitals understand how good they are at following best practices. This is very important to quality improvement efforts. Outcomes are the end result, however. Thus, the interplay between doing what we should and seeing improved results is very important.

Can you speak to your work with HHS and AHRQ on the Hospitals in Pursuit of Excellence campaign? Are there other things that you would like to see happen in terms of collaboration with the public sector?

Steve Mayfield: Coordinating with partners and stakeholders is critical. One thing we do is link to resources of our partners, including the Institute for Healthcare Improvement, and others, so that we can build off each other's efforts. Hospital systems are constantly bombarded with burdens that can be overwhelming and distracting. The AHA Quality Center has the ability to bring people together and reduce frivolous demands on hospitals by focusing on the vital ones. We have been really successful on that. How can we leverage our efforts, and narrow our focus to mission-critical things? How can we best partner with organizations to spread these messages? One of the better examples has already been mentioned: the CUSP effort that started at Johns Hopkins and now is spreading across the nation. Collaboration is possibly the best way to get meaningful returns on our efforts.

How is the economic crisis impacting the quality and safety movement? Is focus being shifted almost entirely onto cost control?

Steve Mayfield: We really have seen a change from a revenue growth model—where success was more equipment, clinics, and staff—to one focused on the internal structure focused on delivering care: work flow and patient flow. The most successful organizations

have found that when they pursue safety and quality, their cost structure changes in the positive direction, and very significantly. It actually costs less to provide good care. Hospitals that remove workarounds, reworks, defects, etc., see less administrative burden, more clarity, improved morale for employees, and better patient outcomes. This, in turn, costs less. You can treat patients more efficiently. I really believe that this is how hospitals will be successful. Pursing this approach will lead to great results.

Hospitals that remove workarounds, reworks, defects, etc., see less administrative burden, more clarity, improved morale for employees, and better patient outcomes. This, in turn, costs less. You can treat patients more efficiently.

Thank you all very much for your time. Do you have any final thoughts or parting wisdom on health reform as it applies to improved quality and patient safety?

Nancy Foster: The one thing I would like to say is that there is not a perfect policy for all organizations. That is really the central challenge: different communities require different approaches. We are very intrigued about the prospect of moving from DRG payment to a broader payment strategy where you are, presumably, getting all providers into same payment structure.

This is one thing we are eager to explore. We are thus glad to see that there are a strong number of demonstration projects in the Senate and House bills. That said, we realize there are no easy solutions to what goes into a payment bundle. Who is in? Who is out? How do you sort that out? Where do home health, ambulatory settings, and long-term care fit into this structure? All of these questions have significant implications for incentives in the system. Moving to demonstration projects that allow us to look at a variety of different models and where they are effective is a critical aspect of health reform. We may not have the universal perfect solution at this time, or ever, but it is critical that we continually explore means to improve care for patients.

H1N1 AND AMERICA'S PANDEMIC PREPAREDNESS

An Interview with Michael Reilly, MPH

By Amy Cohen

Michael Reilly is the Assistant Director at the Center of Disaster Medicine and Assistant Professor of Public Health Practice, Health Policy and Management at New York Medical College. He has over a decade of multidisciplinary experience in emergency preparedness, public safety, inter-governmental relations, and public health and emergency management. He is a Senior Lecturer for multiple Federal agencies including DOJ, DHS, and OSHA.

GPPR: Can you describe your research a little bit?

Prof. Reilly: My research is in emergency preparedness for health systems: hospital systems, clinics, nursing homes, public health systems, really any health care delivery component that exists. All the things we at the Center for Disaster Medicine do revolve around health care delivery as it relates to disasters and emergency preparedness.

How effective do you think America's response to swine flu has been?

Good question. Nationally, initially it was very slow. Initially it was uncoordinated and not as good as it could have been, but we didn't have much practice before now. Federal agencies were new, with the new president, and still ironing out their administrative issues. We learned a lot about vaccine distribution, logistics, supply chain management, and we encountered many logistical issues. In New York City, for example, several big Wall Street firms got their vaccine before hospitals, which when you consider the timing of the H1N1 pandemic with the nation's financial crisis, made many people very upset. However, since the public health system was rushed to distribute the vaccines before the flu season began, stories like this were common. There were few (if any) perfect examples of vaccine allocation and distribution. But, we learned from our mistakes. Generally, we did fair. If I had to give us a grade, maybe about a C-. Having gone through it and distributed the vaccines and attempted to communicate with the public, we've improved. I think with the second wave we will be better.

How well do you think the media performed with swine flu?

Swine flu, H1N1, whatever you want to call it, it was very sensationalized in the media. Clearly any talk of a pandemic on U.S. soil was going to make headlines. But really, the first wave was not very significant when you compare it with seasonal influenza. For example, the first wave saw about 17,000 deaths, but in the annual flu season you see about 36,000. So, although swine flu appears less deadly than seasonal influenza, if you watched certain news programs, you would think it was this new horrible virulent disease. Although the media was conveying information to the public, sometimes all that was reported were the failures of the system to respond, and not the most important messages, such as preventative measures.

Clearly any talk of a pandemic on US soil was going to make headlines. But really, the first wave was not very significant when you compare it with seasonal influenza.

In October, President Obama declared swine flu a national emergency—what does that mean in practice?

This is important. By declaring a national emergency it allows the federal government to spend certain types of money and free up assets and resources to manage an incident that may be out of control at a local or state level. The

president needs to officially declare a disaster for agencies like FEMA, the Department of Health and Human Services and others, to spend money, use resources like disaster stockpiles, and assist state and local governments with preparedness and response efforts. This all has to do with money. A state requests that the president declare an emergency in order to get money to get vaccines, money for overtime, extra equipment and supplies and logistical support. This happens regularly for natural disasters like hurricanes, blizzards, and wildfires, but this was really the first time in quite a while for a public health emergency.

What do you think America's response to the swine flu says about our preparedness for a more serious pandemic?

There are a lot of systems in place for preparing for bioterrorism that will help us prepare for an infectious disease outbreak. We have spent millions of dollars in domestic preparedness funding preparing our ability to respond to bioterrorism. All of these preparedness initiatives since the anthrax attacks of the fall of 2001 have helped increase the capacity of our public health system to respond appropriately to public health emergencies. What we (fortunately) haven't had until now is a need to practice the plans we have put in place in a "real world" application. In terms of our preparation for another type of public health emergency, it depends on the disease. In regard to influenza, we now have a good level of preparedness. With bioterrorism, we have plans, training and education

programs, stockpiled vaccines, anti-dotes and medical supplies, etc., that hospitals might need to get through a particular bioterrorism situation. So there are levels of preparedness. There are variables that we can't anticipate, like how the public will respond, how health care providers will respond... Not all health care providers are at hospitals, such as single-physician practices, clinics, or dentists, and they might not all be as prepared as we would like. There may be people that we miss, particularly in rural areas, where there is less health care infrastructure. We are more prepared now than we were in 2001, and in 2003 you may remember that there was a significant initiative in preparing and training for small-pox. And now we've had a chance to practice with flu. Local health departments are warming up to the idea that emergency response is part of their domain, which has been a hard thing for them to do in the past. We had to convince them that if the hospital fails because health care workers are too sick or refuse to come to work, it becomes a public health issue. We do still see resistance to embrace emergency preparedness, particularly because local health departments lack the personnel, money, and time to commit to training everyone. The federal government has mandated certain types of emergency planning, training and participation in drills and exercises, which is helpful, but it is still a struggle. Our center has been consulting with and advising local health departments, but we still have meetings where health department officials say health care surge capacity

is not their issue. There is plenty left to be done. We are definitely not 100% for anything.

All of these preparedness initiatives since the anthrax attacks of the fall of 2001 have helped increase the capacity of our public health system to respond appropriately to public health emergencies.

In the event of a more serious pandemic, how big of a concern is the “anti-vaccine” movement?

This is a big “hot button” issue in public health preparedness today. We can do a lot at the government level in planning and preparing, even providing vaccines for free, but if—when it comes time to vaccinate—individuals are unwilling to be vaccinated, it could affect the ability of the public health community to slow or stop the spread of disease during a pandemic. The concept of vaccination is very simple: in order to build immunity among a group of people, you can either be vaccinated, or get the disease. Because the risks of illness and death in a population exposed to a contagious disease are so much greater than from vaccination, the best public health approach to prevent illness or death is to receive a vaccination. There are many reasons that people are hesitant to get vaccinated. Much of this apprehension is due to misinformation and a poor understanding of the risks associated

The three main difficulties for people hesitant to get the vaccine were a poor understanding about some vaccines containing a form of “live virus,” issues concerning “getting sick” or not feeling well following vaccination (which was misunderstood to mean that the vaccine would give you the flu), and confusion surrounding the ongoing debate that certain preservatives in childhood vaccines may cause illnesses, such as autism.

with the vaccine. The first problem is that people were only getting information through media and not from their healthcare providers before making a personal decision on whether or not to get the vaccine. It took a while for public health officials to get the right information to the public through credible sources. The three main difficulties for people hesitant to get the vaccine were a poor understanding about some vaccines containing a form of “live virus,” issues concerning “getting sick” or not feeling well following vaccination (which was misunderstood to mean that the vaccine would give you the flu), and confusion surrounding the ongoing debate that certain preservatives in childhood vaccines may cause illnesses, such as autism. This last point has been heavily refuted

in the medical and scientific literature and recently, the medical journal *The Lancet*, which published the sentinel article on the subject in the late 1990s, officially retracted the article from the scientific literature.

But once you put things out there, it’s hard to take them back. Everybody makes up their own mind. The only thing we can do is make sure that doctors talk to their patients and counsel them individually and let them know what their risks are. The H1N1 shot is not any more risky than the regular influenza vaccine. If the H1N1 vaccine had been developed earlier, it would have been combined with the seasonal vaccine and been just one shot. But with the delay this year, it had to be two so that we could get the seasonal vaccine out in time. People didn’t understand that. There was not enough effective communication, and health care providers did not initially do a very good job of damage control. No matter how much information public health officials can give out through the mass media, individuals should always make health care decisions in consultation with their primary care physician.

China’s approach to swine flu has been with strict quarantines and temperature checks—is this effective?

There are lots of different ways to handle a public health outbreak like H1N1. Quarantines can be helpful for infectious disease management, although it’s generally reserved for more fatal, highly contagious diseases like tuberculosis, plague or viral hemorrhagic fevers like Ebola. Early

surveillance and screening is key, and we saw a lot of that here too, looking for people who were exposed to someone who was sick, not just people who were sick. The media did give a lot of information on the symptoms to the public, telling people to stay home if they were feeling sick, letting them know what symptoms to look out for, and making the public aware. Employers did a lot of the same things. And this is very effective in trying to minimize the extent of the outbreak.

The Polish Minister of Health spoke in Polish Parliament advising against the swine flu vaccine—how detrimental is something like that to controlling the spread of the virus?

It's hard to take things back once they're out there. And when public officials give press conferences and state opinions or give statements that are not supported by the scientific evidence, how can we expect the public to make the right decisions? It's about giving the right information at the right time. Sometimes in our haste to respond to media pressure or public inquiries we make statements too early when we do not yet have all the best information; this can be detrimental to the health and welfare of the public. But ultimately, people hear what they want to hear. In the U.S., we've found that the public generally trusts two types of people—people in uniform and doctors. That's why when we make public health announcements, we often use people like the Surgeon General. We try to get those people out there as much as we can with the best information possible.

Will there be another wave?

Unfortunately, there's no crystal ball. Pandemics usually come in three waves, but the amount of time between waves is always different. Based on what we see, it starts, people get sick, and then it wanes and there are fewer occurrences of illness. And then we see the wave again. But usually the second and third waves are less severe. Usually. Now that we have all of our resources positioned where they need to be—and vaccines given to health care workers and the public—when the second wave does present itself, we can do a better job responding. In the U.S., at least. It's impossible to say with other countries because readiness varies. It is certainly possible that in less developed nations, there could be severe mortality, but that's what organizations like the World Health Organization (WHO) are trying to manage.

Now that we have all of our resources positioned where they need to be—and vaccines given to health care workers and the public—when the second wave does present itself, we can do a better job responding.

RISING PLAGUE:

The Global Threat from Deadly Bacteria and Our Dwindling Arsenal to Fight Them, by Brad Spellberg, Prometheus Books, 2009

Reviewed by Ying Zhang
and Michael A. Stoto

Ying Zhang is a Ph.D candidate for the Global Infectious Disease Graduate Program at Georgetown University. She graduated from Fudan University Shanghai Medical School in China, and has a bachelor degree in Medical Science. She is working with Dr. Michael Stoto on her thesis which will analyze the efficacy and efficiency of the public health system from a systems research perspective using the 2009 H1N1 pandemic as a critical event.

Thanks to mass media coverage of Methicillin-resistant *Staphylococcus aureus* (MRSA) infections, drug-resistant microbial infections have become common knowledge. These “super bugs” defeat modern medical science and pharmaceuticals that clinicians and researchers worldwide are both proud of and rely on. However, misinformation about the cause, frequency, and severity of MRSA infection have led some, including medical professionals, to believe that these infections are still a remote threat preventable by the next “magic bullet” antibiotic, which is already somewhere in the drug development pipeline. Dr. Brad Spellberg, an infectious diseases specialist and a medical researcher, completes the story in *Rising Plague: The global threat from deadly bacteria and our dwindling arsenal to fight them*, which clarifies many of the misconceptions about drug-resistant microbial infections and offers policy solutions to fuel antibiotics innovation.

The book begins with stories of drug-resistant bacterial infection victims, from an immune-compromised patient under cancer treatment to a healthy high school football player, conveying the crucial message that this problem can affect anyone. Despite the common perception that people in poverty are most vulnerable to infectious disease, everyone, regardless of their previous health condition and socio-economic status, is susceptible to drug-resistant microbial infections. Moreover, the cure for such infections is not always available.

To further stimulate public awareness of the severity of the issue, *Rising Plague* dissects the complicated interactions between the microbe itself, clinicians, and pharmaceutical companies and demonstrates how each of these factors individually and collectively contribute to the shortage of effective antibiotics. Summarizing the core of microbiology in his section on evolution and adaptation, Dr. Spellberg points out that most

antibiotics are composed of a natural compound found in the bacteria themselves. This leads to a discussion of why microbes have an innate advantage in catching up with humanity's pace of antibiotic development. The author also makes an important distinction between antibiotics discovery and other technological innovations. In the electronics industry the dynamic between demand and supply is more of a positive feedback loop: the better the products the larger the demand. With antibiotics, in contrast, consumers (who are mostly clinicians) tend to save the most effective antibiotic for the last. Clinicians' conservative behavior turns the interaction into a negative feedback loop that makes antibiotics development unpromising for industry.

Moreover, although infectious diseases are rare in that they can actually be cured in the short-term, antibiotic development is not profitable for pharmaceutical companies. They would rather invest in "blockbuster" medications for life-long chronic conditions such as diabetes, asthma, and hypertension, which can generate continuous revenue to guarantee a profit. Moreover, Spellberg argues, disappointing results of applying molecular biology technology in drug research and development as well as the skyrocketing cost of clinical trials contribute to an even less favorable environment for antibiotics development. In short, the pipeline of antibiotics research and development has dried up over the years. Without proactive intervention, *Rising Plague* points out, we may soon enter the "post-antibiotics era" in which

modern medical science would collapse due to the lack of effective antibiotics in the countless procedures that rely on them: trauma treatment, abdomen surgery, organ transplant, cancer treatment and so on.

To solve the problem, the author proposes solutions such as making a priority list of pathogens, developing a "push-pull" strategy to provide incentives for the industry, and stiffening political will by raising public awareness. In Chapter 7, one of the most insightful and impressive sections of the book, the author reviews why government programs alone cannot solve the problem. This chapter provides a clear picture of how drugs are discovered, transformed, developed, and marketed as well as the appropriate role for the government in each stage.

The Rising Plague is unique among popular books about infectious diseases in challenging the traditional perception that inappropriate usage of antibiotics is the primary cause of drug-resistance. Supported by the molecular biological evidence, Dr. Spellberg shows that human behavior does not cause drug-resistance, but rather only increases its frequency. In other words, standardizing clinical practice in antibiotic usage can supplement, but not replace, public and private antibiotic research and development. By reframing the topic in this way, *Rising Plague* distinguishes itself as a must-read book.

Although government-led programs have shown little potential in propelling antibiotic innovation,

Dr. Spellberg does propose that the federal government set up an independent commission to identify the most life-threatening pathogens for an antibiotic development priority list. This strategy has been proven to be successful in other biomedical innovations. For instance, at the behest of the National Institutes of Health (NIH), the Institute of Medicine (IOM) developed a quantitative model that could be used to prioritize vaccine development. Variables such as the disease burden, costs of care, vaccine program cost, vaccine acceptance, vaccine development costs, and the likelihood of success were all considered in the model, and qualified vaccines candidates were evaluated and categorized as “Most Favorable” (7), “More Favorable” (9), “Favorable” (4) and “Less Favorable” (7). In a ten-year review¹ conducted in 1995, among 27 prioritized vaccine candidates, three candidates were considered to be licensed in three years, twelve in seven years, and the rest were expected to be licensed within 15 years. Some of these, including vaccines for Human Papilloma Virus, Hepatitis B, and Influenza are already routinely used.

Dr. Spellberg’s most controversial recommendation is the “wild-card patent extension” policy, which would enable pharmaceutical companies to extend the market exclusivity period of their most profitable drug, as a reward for their priority antibiotic research and development. Because the reward is based on a company’s most profitable drug rather than the antibiotic they discover and bring to market, Dr. Spellberg characterizes this policy as

the ultimate incentive for giant pharmaceutical companies. His argument that this policy does not increase the healthcare costs, but “merely continues the current costs of an on-patent drug for a slightly longer period of time” is not compelling. Compared to a generic, even a few more months at the higher price of a blockbuster drug can cost billions of dollars. Moreover, as Dr. Marcia Angell argues in *The Truth about the Drug Companies*² the possibility of abuse by profit-driven pharmaceutical companies cannot be ignored.

Because of government-imposed price controls in Canada or the European Union, drugs sold in the U.S. are more expensive in most developed countries. Arguing that such price controls limit profit and cripple their innovation capability, pharmaceutical companies lobby for policies that prevent Americans from importing drugs. Thus, operating in a relatively free and robust market, U.S.-based pharmaceutical companies now serve as the major driving force of the drug research and drug development globally. Hence, when setting up financial incentives such as the wild-card patent extension, it is both reasonable and essential to bring other countries on board. This will not only further enhance the financial incentives of the policy, but also spread the shared responsibility of supporting drug innovation.

The emerging threat and solutions package outlined in this book appeared in the Infectious Disease Society of America (IDSA) Report *Bad Bugs, No Drugs*³ six years ago. Dr. Spellberg’s compelling presentation brings these

ideas to life in a way that is much more likely to sway U.S. and global infectious disease policy.

ENDNOTES

1. Kathleen R. Stratton, Jane S. Durch, and Robert S. Lawrence, eds., *Vaccines for the 21st Century: A Tool for Decisionmaking* (Washington, D.C: National Academy Press, 2000).
2. Marcia Angell, *The Truth About the Drug Companies* (New York: Random House Trade Paperbacks, 2004).
3. Infectious Diseases Society of America, *Bad Bugs, No Drugs: As Antibiotic Discovery Stagnates, A Public Health Crisis Brews*, <http://www.idsociety.org/Work-Area/linkit.aspx?LinkIdentifier=id&ItemID=5554> (accessed January 14, 2010).

MEN WHO HAVE SEX WITH MEN:

The Absent Driver Of The HIV/AIDS Epidemic In Vietnam

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Ms. Macarena Sarraf has managed and coordinated HIV/AIDS programs funded by the U.S. Government for six years, specifically working in Botswana, Nigeria, and Vietnam. She currently serves as a Policy Specialist with the United Nations Development Programme's Bureau for Development Policy within the HIV/AIDS Group in New York City. Ms. Sarraf is also a Doctorate of Public Health candidate at Flinders University of South Australia.

UNAIDS (2008) data show that, in Vietnam, men who have sex with men (MSM) are at high risk of HIV infection, with prevalence rates of more than double that of female sex workers (FSW). According to UNAIDS, the HIV prevalence rate among MSM stands at 9%, while FSW in Vietnam have an HIV prevalence rate of 4.2% (2008). However, the national newsprint in Vietnam, which is the literate population's preferred media source, has remained conspicuously silent on the potential risk of HIV infection associated with unprotected homosexual sex. The national newsprint in Vietnam represents HIV/AIDS as a heterosexual problem driven by FSW and injecting drug users (IDU) while MSM, another high-risk group, remain conspicuously absent from the news texts. This study found that, out of 2,077 news articles about HIV/AIDS published in major Vietnamese daily journals during a three-year period, only 35 specifically mentioned MSM. The lack of media interest in MSM is likely due to long-standing cultural values that privilege heterosexuality and the extended family structure, a legal structure that ignores the existence of MSM, and a high level of stigma and discrimination that contributes to MSM 'hiding' their sexual preference. If these conditions persist and MSM continue to be ignored by major media channels, prevention campaigns that do not include a media component will prove ineffective, and the HIV epidemic could increase rapidly among MSM.

INTRODUCTION ¹

Much of today's information and images disseminated through major media channels in Vietnam regarding sexuality are exclusively targeted at and pertinent to heterosexuals. This study shows that the national

newsprint, a major source of information for the largely literate Vietnamese population, ignores the epidemiological fact that men who have sex with men (MSM) are one of several important drivers of the HIV/AIDS epidemic in Vietnam. As a result of low levels of awareness and understanding among the Vietnamese general population, homosexuality has been left virtually untouched in popular culture and HIV/AIDS campaigns. Influenced by the incorrect assumptions of the media, popular belief, and unscientific research (Khuat et al 2005), many myths and misconceptions about MSM have taken hold among the public (Blanc 2005; Colby 2003; Colby et al. 2004; Doussantousse et al. 2002; St. Pierre et al. 1997; and Toan et al. 2005).

Vietnam has achieved a remarkably high literacy rate of 95% (UNICEF 2009), which contributes to a wide readership of print periodicals. Current academic and professional literature and studies on policies, HIV vulnerabilities, and MSM are examined through the lens of one specific news medium: Vietnamese newsprint.

This paper discusses the connections between MSM and HIV/AIDS and how these associations have (or have not) been represented in Vietnam. A critique of Vietnamese policies regarding MSM vulnerabilities to HIV infection and potential consequences reveals limitations and gaps in policies that require further evaluation and redirection.

METHOD

The newspapers included in this analysis were published in all major Vietnamese cities (primarily in the Vietnamese language) during the analysis period (May 2006 to February 2009), including weekday and special weekend editions. All articles featuring HIV and/or AIDS were collected by the Joint United Nations Program on HIV/AIDS (UNAIDS) Communications Department in Vietnam. A commercial journalism service was contracted to catalogue each article published during the study period by content, issues, most-at-risk population and/or social groups, and types of individuals that received attention. A total of 2,077 published news items featuring HIV/AIDS were included in this analysis.

A review of professional and academic literature was conducted, focusing on articles published in the English language in international peer-reviewed journals during the period of May 2006 to February 2009. The literature review also included a plethora of bio-medical and clinical journal articles, which were omitted from this study. Journal articles containing discussions on modes of HIV infection and transmission in Vietnam were carefully reviewed and catalogued by content (i.e., prevention, care, treatment, health systems) and most-at-risk population (MARP) groups that received attention. A total of 28 articles that appeared in academic and/or professional journals were included in this analysis.

BACKGROUND

The HIV/AIDS epidemic in Vietnam is still in a concentrated phase, with the highest prevalence rates found among specific populations at higher risk; these include injecting drug users (IDU), female sex workers (FSW) and MSM. As documented by a recently published Ministry of Health Estimates and Projections Project Report (2009: 82), MSM populations are larger than those of the other groups, and are primarily concentrated in urban areas such as Ho Chi Minh City (64,247), the Red River Delta (60,698), the Mekong River Delta (73,727) and Hanoi (35,436). In these urban centers, IDU and FSW population estimates are relatively lower:²

| | IDU | FSW | MSM |
|--------------------|--------|--------|--------|
| Ho Chi Minh City | 34,097 | 30,000 | 64,247 |
| Red River Delta | 37,867 | 4,323 | 60,698 |
| Mekong River Delta | 10,633 | 8,622 | 73,727 |
| Hanoi | 37,864 | 4,800 | 35,436 |

According to UNAIDS (2008), prevalence in the general population is estimated at 0.53% and an estimated 243,000 Vietnamese were living with HIV and/or AIDS in 2009. Of all reported HIV cases, 78.9% are in the age group 20–39, with males accounting for 85.2% of total reported HIV cases. The average age of people living with HIV is decreasing and heterosexual transmission is becoming more significant (UNAIDS 2008).

Unlike Thailand to the west, the epidemic in Vietnam is not as severe. UNAIDS (2008) reports that the epidemics in Ho Chi Minh City (HCMC) and the north-east coast initiated earlier, while epidemics in other parts of the country are much more recent. According to UNAIDS (2008), “this variability has resulted in a geographic concentration of HIV cases in large cities and

provinces where the local HIV epidemic in groups of IDUs, FSWs and MSM is substantial.”

RESULTS

MSM in academic literature

According to UNAIDS, the percentages of most-at-risk populations who are HIV infected in Vietnam are as follows (2008):

- IDU: 23.1%
- MSM: 9.0%
- FSW: 4.2%

An analysis of articles published in international peer-reviewed journals during the three-year study period revealed that 64% of the articles featured IDU and 36% featured FSW (not mutually exclusive) as drivers of the HIV epidemic in Vietnam. However, MSM was also a group of considerable concern, with 14% of articles discussing the significant connections between MSM and HIV/AIDS, compared with only 2% of articles from Vietnamese newsprint. A majority of the articles featuring MSM as an important MARP group included discussion on men who sell sex or male sex workers. seven percent of articles reviewed (two of 28) did not feature a MARP group at all.

The Effects of Low Media Coverage in Vietnam

UNAIDS confirms that unprotected anal sex is high-risk behavior in terms of HIV infection, especially for the receptive partner (2000). MSM in Vietnam have a high risk for HIV infection due to high number of sexual partners, low condom use, and falsely low perceptions of their risk for infection among homosexuals (Toan et al. 2005). Low risk perceptions in Vietnamese society likely result from very little media coverage and information dissemination on MSM high-risk activities, as well as this group's exclusion from the National HIV Surveillance System.

Low risk perceptions in Vietnamese society likely result from very little media coverage and information dissemination on MSM high-risk activities, as well as this group's exclusion from the National HIV Surveillance System.

According to Integrated Biological Behavioral Survey (IBBS) (2006) findings:

- MSM reported sexual relations with multiple types of partners, such as other MSM (clients, male sex workers, and consensual male partners) as well as female partners, which included FSW
- Many MSM reported two partners or more per month, especially those who sold sex to other men

- 21.8% of MSM in Hanoi and over 40% of MSM in Ho Chi Minh City reported selling sex in the previous month and the majority of them reported anal sex with male clients (18% and 35% respectively)

Approximately 40% of MSM also reported having sex with female partners in the previous 12 months. It is important to note that several studies of Vietnamese MSM have shown that quite large numbers identify themselves as bisexual, and a smaller number as heterosexual (Colby 2003 and Nguyen 2004). These men are oftentimes referred to as 'hidden' MSM in the literature, which suggests the general sentiment that being a homosexual man is not acceptable in Vietnam. MSM tend to marry because of social and family pressure, and they maintain sexual relations with their spouses while having concurrent sexual relationships with other men. These MSM act as bridges for HIV and other sexually transmitted infections between themselves and the heterosexual population (Nguyen et al. 2008) via sexual activity with women, both casual sex partners and long-term sex partners such as wives and girlfriends (Morrison & Nieburg, 2006).

The IBBS (2006) also found that condom use was infrequent among MSM and their partners. In Hanoi and Ho Chi Minh City, only about 30% of MSM reported using condoms consistently when they had anal sex with their male partners. These findings may be attributed to the lack of accessibility to condoms and a low perception of HIV infection risk. MSM also had unprotected sex with female

partners, especially regular ones such as girlfriends and/or spouses. Additionally, only 40% of MSM received free condoms in the six months prior to the survey, compared to 60% of FSW who reported having been provided with free condoms during the same time period.

Currently, most HIV/AIDS prevention campaigns do not target homosexuals, and most disconcertingly, MSM themselves continue to believe there is little danger of contracting HIV. Among the three major drivers of the HIV epidemic in Vietnam (IDU, FSW, and MSM), the IBBS (2006) found that HIV-positive MSM were the least aware of their HIV status in Hanoi (10%) and Ho Chi Minh City (27%). Further, 66% of MSM surveyed in Ho Chi Minh City incorrectly believed that vaginal sex was riskier than anal sex. Vietnamese popular belief holds that sexually transmitted infections are more often associated with the female body; men consider their genitals closed, containing no opening or passageway for the virus to enter the body (Blanc 2005). Only 13% of those surveyed believed they were at high risk for HIV infection (Toan et al. 2005).

Public awareness of homosexuality and male prostitution appears minimal in Vietnamese society, which still perceives heterosexual relationships as the norm (Blanc 2005). When researchers discussed the issue of MSM with Vietnamese women from mainstream society, none seemed aware that homosexuality or male prostitution existed in Vietnam to any significant extent (Doussantousse et al. 2002). In some

cases, respondents expressed the view that homosexuality is only an emotional response³ and did not involve penetrative sex.

According to several studies conducted in Vietnam (Doussantousse et al. 2002; Colby 2003 and 2004; Hanoi Medical University 2009; and others), there is a significant population of men selling sex to a large number of clients in Can Tho, Ho Chi Minh City, Hai Phong, and Hanoi. Many male sex worker encounters involve what is deemed to be risky behavior, yet media and the public currently pay very little attention to these activities. In Hanoi, commercial MSM activities are widespread in certain areas and there appears to be a strong demand for paid sex with men as well as a consistent level of supply (Doussantousse et al. 2002).

MSM in Vietnamese Newsprint

Homosexuals were featured prominently in the 1980s by the western media as the drivers of initial HIV/AIDS epidemics in developed countries like the United States, Australia, and the United Kingdom (Lupton 1998). In sharp contrast, assessment and cataloguing of news topics in Vietnam referring to HIV/AIDS show that, according to national newsprint, the HIV/AIDS problem in Vietnam is fueled by the activities of, first and foremost, IDU and second, FSW. Of all HIV/AIDS-related articles in national newsprint during the analysis period, 19% mentioned IDU and 10% mentioned FSW (or female “prostitution”) as a source of the HIV/AIDS problem in Vietnam. A substantial number of

newsprint articles were also concerned with the “innocent victims” among the general population contracting HIV, mainly children and women.

The majority of articles failed to convey an important correlation between IDU and FSW (i.e., IDU who visit FSW and/or FSW who inject drugs), and also made no mention of the existence and risk of men who sell sex to other men. Only 35 out of 2,077 HIV/AIDS-related articles during the analysis period specifically mentioned MSM. Of the 35 articles that mentioned MSM explicitly, many included either incorrect information based on myths and misperceptions about MSM or represented this group in a negative light.

One glaring example of the misrepresentation of MSM in the newsprint is found in an article in the Capital Labor Newspaper (2006), Hanoi’s national newsprint, which reported that “recently, rising homosexuality also poses another threat of HIV/AIDS infection in Vietnam, where 1% of its population has innate sex-related problems.” The article does not define homosexual sex, but instead, represents homosexuality as an innate sex-related problem. The article concludes with several recommendations on how to improve the national response to HIV/AIDS, specifically that Vietnam should “intensify provisional services and detoxification for drug addicts, speed up sex and safe sex education programs, integrate HIV/AIDS propaganda campaigns with treatment and care for AIDS patients, and reduce the HIV/AIDS infection risks among sex workers and drug addicts” (2006). The recommendation

fails to mention MSM despite the fact that it has been identified as a significant high-risk group in the first paragraph of the article. In the rare instances where MSM are mentioned in national newsprint, there is a general lack of in-depth discussion and few recommendations are introduced.

DISCUSSION

Since published reports (UNAIDS 2008) and academic literature (Colby et al. 2004) show that MSM in Vietnam are more than twice as likely as FSW to be infected with HIV, the question arises: Why does Vietnamese newsprint continue to represent the HIV problem in Vietnam as one driven primarily by heterosexual populations (IDU and FSW)?

To answer this question, it is important to understand the unique nature and position of the Vietnamese newsprint. Unlike Western nations or democratic neighboring countries like Thailand, the press in Vietnam (main sources of media such as newsprint, national television networks, and radio) is controlled by various government agencies or directly by the Communist Party (McCracken 2008).

According to the 2008 World Press Freedom Review, not only are sources of private media banned, but “the press in Vietnam continues to struggle under the heel of an ongoing government crackdown on free speech” (McCracken 2008). Local newspapers are permitted to publish some mild criticisms of party policy, but for the most part

old Communist rules are still in place (Bennett-Jones 2000).

As a mouthpiece of the Communist Party and its national policies and agendas, the Vietnamese newsprint is laden with pre-existing assumptions and suppositions about the HIV/AIDS problem in Vietnam, which contradict the facts presented in professional literature. These assumptions include:

- If MSM exist in Vietnam, their numbers are relatively low and this group is not involved in the HIV/AIDS epidemic (St. Pierre et al. 1997).
- Homosexuality is just a temporary phenomenon. According to Doussantousse et al., the attitude of the general Vietnamese population resembles that of a doctor who was quoted as suggesting that “in reality, 99% of the homosexuals are faking. This is a fashion brought to Vietnam by foreigners” (2002).
- Homosexual activities do not involve penetrative sex, but involve only an emotional response from one man to another (Doussantousse et al. 2002).

In the eyes of Vietnamese authorities and the majority of the public, MSM do not exist and are not given space to exist. As a result, MSM have been pointedly ignored as a driver of the HIV/AIDS epidemic in Vietnam by the national newsprint. Homosexual activities are rarely even mentioned in the context of HIV/AIDS—in the three-year analysis period, MSM were only

cited 35 times in national newsprint, compared to 348 mentions of children.

In addition to the state, religious groups (Catholic, Buddhist) and conservative organizations (the Communist Party) that hold preconceived notions about right and wrong also play a part in marginalizing MSM. These collective assumptions, as represented in Vietnamese newsprint, have a significant impact on public health outcomes in Vietnam, including the manner in which the HIV/AIDS problem is addressed not only by policymakers in Vietnam, but also by agencies implementing HIV/AIDS programs.

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In Vietnam, the official position with regard to homosexuality is still ambivalent. Ironically, this is in stark contrast with the state’s policy of criminalizing female sex work as one of three “social evils”⁴ proclaimed by the government in its attempt to reduce the incidence and prevalence of social diseases (Blanc 2005). Doussantousse et al. elaborate on this dichotomous official attitude towards prostitution in Vietnam, where “female prostitution is criminalized, designated a ‘social evil’

in the government's public information campaign, and regarded as a significant transmission channel for HIV infection," but "male prostitution is almost disregarded." The same study by Dous-santousse et al. on male sex work in Hanoi showed that the lack of interest in male sex workers (MSW) by the authorities encouraged unconcern and a belief that MSW are safe from HIV infection. In addition, because MSM have only recently begun to be perceived as being vulnerable to HIV infection, they continue to be excluded by Vietnam's National HIV Surveillance System. As Pisani (2008) aptly suggests, "no data equals no problem."

It is clear that a limited understanding of male-to-male sex and sexuality, which can be attributed to a lack of media coverage, continues to be a major barrier to effective HIV prevention for MSM. If MSM continue to be an excluded population for prevention messages, they will continue to perceive themselves as safe from HIV infection. Thus, urgent intervention to improve this situation needs to be focused on reducing the stigma associated with being a homosexual man in Vietnamese society and "normalizing" homosexual behavior. Measures can include implementation of education programs presented in simple, easy to understand language (to cater to the low levels of education among many MSM), emphasizing the importance of condom and lubricant use with all partners, and ensuring that condoms are available where and when they are needed most (i.e., hotels, massage parlors, pharmacies). When MSM in Can Tho Province

were asked what interventions would likely support them in living a healthy life (Hang et al. 2005), many listed the following:

- Access to HIV/AIDS information broadcasted on the news or the Internet
- Support from local authorities and health experts so they can feel accepted and recognized by their family and society
- Establishment of peer educator networks among MSM and counseling for MSM testing positive for HIV/AIDS
- Provision of free condoms and lubricants

Although MSM-targeted activities in Vietnam are limited, Population Services International (PSI) and Family Health International (FHI), two U.S.-based private non-governmental organizations funded by the U.S. President's Emergency Plan for AIDS Relief program, have been working to provide information and commodities to MSM communities in Vietnam. PSI has launched the 'Number One Plus' social marketing campaign that emphasizes the importance of combined use of lubricants and condoms and improves product access by selling co-packaged condoms and water-based lubricant sachets in and around hot spot areas in Hanoi, Hai Phong, and Ho Chi Minh City (Madan 2009).

FHI aims to promote safer sexual and drug injecting practices among MSM and their sexual partners by increasing access to voluntary counseling and

testing services (FHI 2009). FHI activities focus on: 1) providing advocacy to local authorities and stakeholders, including entertainment establishment owners and/or managers; 2) providing targeted behavior change communication through peer-outreach, networks, and designated drop-in centers, including the provision of free condoms and lubricant; and 3) organizing social and educational events in the community. MSW will also benefit from empowerment campaigns that teach them to insist on safe sex with clients and give them access to commodities that they can use to protect themselves and their sexual partners. Although some of these programs exist, they are currently limited in scale and scope. According to PSI/Vietnam's Country Representative, it is very difficult to reach men who have both male and female sex partners and do not openly identify as gay (Madan 2009).

For the first time, the revised law on HIV/AIDS passed by the Vietnam National Assembly (2006) has listed homosexuals among the high-risk groups prioritized for HIV prevention programs. However, there are still no MSM-specific budget lines in the Program of Actions (within the HIV National Strategy) and proposed interventions continue to be limited (UNAIDS 2009). If there is no change in the way in which the state and the Vietnamese press represent the MSM and HIV/AIDS problem, Vietnam may witness the rapid increase of HIV prevalence among MSM in the short-term, as did Thailand:

“With little attention being paid by Thai authorities to this important most-at-risk population, HIV prevalence among MSM almost doubled from 2003 to 2005, going from 17.3% to 28.3%” (Van Griensven et al. 2006).

If a noticeable shift takes place in Vietnamese society to recognize the existence of MSM and appreciate their unique health and social needs, MSM will no longer be ignored in national HIV/AIDS strategies and surveillance systems. Increased positive representation of MSM in Vietnam's newsprint can help to effectively accomplish this change, which has the potential to decelerate the rate of HIV infections in Vietnam and contribute to the government's ability to meet its UNGASS target of maintaining HIV prevalence at below 0.3% among the general population (Socialist Republic of Vietnam 2008).

CONCLUSION

In order to achieve a positive public health outcome for MSM and the general population in Vietnam, many preexisting assumptions held by the state and Vietnamese society need to be challenged and overturned. Petersen asserts that information “conveyed by the media help to shape the context within which opinions are formed and decisions are made that ultimately affect health and well-being” (1994). Therefore, MSM need to be recognized by popular discourse in Vietnam, including its national newsprint, as a group of individuals that is at an increased risk of HIV infection. MSM

should be included in HIV prevention campaigns as well as the National HIV/AIDS Strategy and Surveillance System, which can be used to better guide the development and implementation of suitable and effective HIV prevention and treatment services for this high-risk group.

It is important to note that the newsprint is but one medium through which information is disseminated in Vietnam, albeit a significant one, and other media channels do exist. However, because access to other forms of media, such as the Internet and television, are limited to urban and middle-class residents, newsprint continues to be the most widely consumed media in Vietnam. Coupled with effective and targeted prevention campaigns, Vietnamese newsprint has a promising potential to contribute to reducing the HIV epidemic among the MSM population. If newsprint content, which reaches the majority of Vietnamese citizens, continues to ignore MSM or misrepresent homosexual behavior, it runs the risk of fueling the HIV/AIDS epidemic rather than working toward halting infection rates in Vietnam.

ENDNOTES

1. Accurate data can be challenging to generate and disseminate in Vietnam. However, the UNAIDS/Vietnam country office has diligently worked with the Government of Vietnam to improve surveillance, MARP mapping, estimates and projections. I would like to thank Dr. Vladanka Andreeva (Monitoring and Evaluation Adviser), Ludo Bok (Partnership Adviser), Asia Nguyen (Program Officer/Coordination), and Nguyen My Linh (Program Officer/Key Populations

at Higher Risk) at UNAIDS/Vietnam for their valuable expertise and timely provision of difficult-to-access provincial and national data and documentation on MARPs in Vietnam. A special thanks goes to Hoang Thanh Hai, PEPFAR/Vietnam Communication Specialist, who translated policy documents and provided guidance on the nuances of the Vietnamese language within translated texts used in this study.

2. High estimates of population sizes used in HIV/AIDS Estimates and Projections 1990-2012 in Vietnam.
3. For an in-depth analysis of the underlying normative and historical reasons which fuel existing assumptions and presuppositions about homosexuality in Vietnam, please see Blanc (2005).
4. "Social evils," as redefined by the state during the Doi Moi (economic opening) era, describe behavior that is harmful, "with regard to the morals of society and inimical to the edification of the socialist state" (Blanc 2005: 662), including prostitution, drug abuse and crime.

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GOING BEYOND BRAZIL:

*The Historical and Geopolitical Incentives Inspiring
President Lula to Help Africa Combat HIV/AIDS*

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In recent years, Brazil has gone beyond its borders to provide several African nations the infrastructure and technical assistance needed to confront the ongoing HIV/AIDS epidemic. In this article, I explain how Brazil's unique history and current geopolitical strategy generates incentives for the government to achieve this, while providing an alternative model of bilateral aid assistance—one that is premised on knowledge transfer and long-term partnerships. I close by explaining the lessons that other nations can learn from Brazil and the model it provides for what other emerging nations—such as India and China—can achieve in their regions.

INTRODUCTION

Often hailed for having the best model response to HIV/AIDS, Brazil is trying to use its international reputation and expertise to help other nations combat AIDS. A good example of this is the government's technical assistance to several African countries (Mozambique, Nigeria, and Angola), for the construction of pharmaceutical plants to facilitate the production and distribution of antiretroviral medication. In addition, Brazil is going further by providing the knowledge and research expertise needed to sustain vaccine production, such as helping create institutes for vaccine development and educational centers. In this article, I explain why and how Brazil went beyond its borders to help several African nations achieve these goals while laying out a new donor aid paradigm for bilateral development assistance.

In addition to a high level of legitimacy and influence stemming from Brazil's successful AIDS program, its historic commitment to pharmaceutical production and ties with Africa, Brazil's bilateral assistance has been motivated by President Lula's grander geopolitical strategy. While certainly motivated by altruism and concern for the well-being of others, it seems that Lula also views bilateral assistance as a way to increase

his international influence as a leader committed to working with other nations in eradicating disease and fostering development in Africa. Providing bilateral aid has added credibility to his campaign. In addition, Lula has worked through international coalitions, such as the G-3 (which comprises Brazil, India, and South Africa), to lead and work with other nations in advancing his cause.

I conclude this article by explaining how these endeavors have led to the emergence of a new paradigm for bilateral donor aid assistance, grounded in inter-state cooperation, trust, and a long-term development strategy. Moreover, the model emphasizes knowledge transfer rather than financial assistance, a form of assistance that may be more feasible for emerging upper-middle income nations with ample technological know-how and experience, while still somewhat constrained in terms of their economic resources.

INTERNATIONAL FAME AND INFLUENCE

During the 1990s, Brazil received a lot of international recognition for its aggressive AIDS prevention and treatment policies. By 1995, this recognition combined with a host of innovative prevention and treatment programs and the incorporation of civil society into the policy-making process has earned Brazil even more acclaim. In 2003, for example, the Bill & Melinda Gates foundation awarded Brazil its Global Health award for the best model response to AIDS. This helped establish

Brazil as the model for AIDS policy. In 2005, the director of the UNAIDS program, Dr. Peter Piot, publically stated that the “Brazilian response to AIDS has emerged as a model in tackling both HIV prevention and treatment head-on” (Piot 2005).

Shortly after his arrival in office in 2003, Lula noticed the attention the AIDS program was receiving. This motivated him to continue investing in the AIDS program and to start marketing it abroad. Indeed, in 2004 Lula frequently met with the National AIDS Program Director, Dr. Paulo Teixeira, as well as the Minister of Foreign Affairs, to see how they could effectively promote their model among other nations, especially in Africa (interview with Paulo Teixeira, June 6, 2008). The government’s success with AIDS inspired Lula to see how he could positively influence reforms in other nations, in turn enhancing his international influence through technical assistance (interview with Carlos Passerelli, Director of the International Advisory and Cooperation Division, National AIDS Program, Brazil, August 7, 2009; Gómez 2009a). This has motivated Lula to strengthen his commitment to Africa, in turn providing a good example of how emerging middle-income nations can help Africa overcome AIDS.

HISTORICAL AND CONTEMPORARY PRELUDES TO DONOR ASSISTANCE

But there are also some historical reasons for Brazil’s assistance to Africa. Besides international recognition,

Brazil's long history of pharmaceutical infrastructure capacity and knowledge provides the Lula administration with the legitimacy and influence needed to expand its assistance program. The government's commitment to vaccine development and institution building can be traced back to the early-20th century, when it was committed to conducting research and developing vaccines for major diseases, such as the bubonic plague, yellow fever, and tuberculosis (TB) (Hochman 1993; 1998). This tradition was further strengthened under the dictatorship of Getúlio Vargas (1930-45; Hochman 1998). Vargas invested heavily in producing the pharmaceutical infrastructure and scientific research needed to safeguard society from disease and ensure economic prosperity.

Even after Vargas, the government continued to invest in this process. In 1957, for example, it created the Medicines Production Lab through the Fiocruz institute in Rio de Janeiro. This lab was used to produce insecticides and other products for the control of pathogens (Flynn 2008). The government further increased its investment in infrastructure when, in 1971, the military created the Central Medicines Agency (CMA). The goal was to purchase drugs from the public and private sectors while increasing epidemiological surveillance. In 1976, the Ministry of Health lab was incorporated into Fiocruz, creating two public agencies: Far-Manguinhos (for the production of medicine) and Bio-Manguinhos (for the creation of vaccines). Research into chemicals and vaccines flourished during this period.

Up through the 1990s, increased foreign ownership of private pharmaceutical firms, along with fiscal duress, stalled public investment in pharmaceutical labs (Flynn 2008). Despite this brief setback, the government established a tradition of investing in pharmaceutical production and technology, a legacy that would provide advantages when the AIDS epidemic emerged.

Indeed, the government invested heavily in Far-Manguinhos during the 1990s. These efforts, in addition to those of universities and research institutions affiliated with the Ministry of Health, provided the resources needed to start producing vaccines for HIV. Because of the government's ongoing investment in Far-Manguinhos and biotechnology in general (Ferrer et al. 2004), it has been able to produce and distribute generic versions of antiretroviral (ARV) medication. Nevertheless, by possessing the infrastructure and technical capacity needed to produce drugs, the government has been able to secure the distribution of ARV medication, enacted into constitutional law in 1996, while successfully threatening the issue of compulsory licenses for other drugs in order to obtain them at cheaper prices (Teixeira 2003). In doing so, Brazil has taken advantage of the 2001 Doha declaration, which reaffirms the 1995 TRIPS ruling that nations can issue compulsory licenses for public health emergencies.

Brazil also has a rich policy tradition and legacy of working with Africa. In fact, it was the military government which started establishing strong ties with Africa. Under General Ernesto

Geisel (1974-79), for example, Brazil established a host of embassies throughout Africa, imported African oil, and engaged in trade with several countries (Visentini 2003). The last military president, General João Figueiredo (1979-85), continued this process and visited Nigeria, Senegal, Guinea, Cape Verde, and Algeria. Despite a brief setback in the government's relations with Africa during the first couple of democratic administrations (due mainly to neoliberal stabilization efforts and isolation), President Fernando H. Cardoso rejuvenated Brazil's relations with Africa (Visentini

Since entering office, Lula has had an unwavering interest in increasing his international influence, both as a harbinger of new policy ideas securing economic growth, providing welfare to the poor, while leading other developing nations (especially in the Latin American region) to achieve these ends.

2003). In 1995, for example, he ordered the Brazilian Army to participate in UN peacekeeping missions in Angola (ibid). In 1996, Cardoso visited Angola and South Africa, followed by inviting President Mandela to Brasilia in 1998 (ibid).

Lula has continued Cardoso's campaign and has even combined this ongoing campaign with a moral commitment

to Africa. Since entering office, Lula has incessantly stated that he has a "moral" and "historical" commitment to helping Africa combat AIDS (Aquino 2008, Kingstone 2003). In some instances, he has even mentioned being "indebted" to Africa (ibid, Notisur 2003). This stems primarily from the fact that Brazil's government and most of its culture was built by African slaves. Until the abolishment of slavery in 1888, the slave trade helped to construct most of Brazil's agricultural sector (especially coffee) as well as infrastructure. African-Brazilians also provided a rich culture of religious belief, education, foods, dance, and other gifts that continue to color Brazilian life. Because of this, Lula has felt a deep moral obligation to help Africa combat AIDS (Sotero 2009).

Finally, it is important to note that Lula perceives his assistance to Africa as a way to increase his reputation and influence as a leader at the international level. While Lula certainly displays a genuine concern for the livelihood of the poor, and while his intentions may thus seem altruistic in nature, there seems to be more behind his bilateral efforts. Since entering office, Lula has had an unwavering interest in increasing his international influence, both as a harbinger of new policy ideas securing economic growth, providing welfare to the poor, while leading other developing nations (especially in the Latin American region) to achieve these ends (Greider and Raposa 2003). By providing assistance to Africa, Lula displays how committed he is to disease eradication and development, thus

further enhancing his reputation as a world leader committed to eradicating poverty (interview with Carlos Passerelli, National AIDS Program, August 7, 2009). Other scholars note that Lula's assistance to Africa helps Brazil magnify its presence at the global level, gradually fulfilling its role as an emerging power (Visentini 2008). As someone who has incessantly advocated for the importance of bilateral commitment to eradicating disease in Africa, following through with bilateral assistance has bolstered Lula's credibility, in turn facilitating his ability to engage in partnerships with other nations.

Indeed, Lula has made it a point throughout his administration to attend international conferences and summits to encourage and work with other nations in providing assistance to Africa (ibid; interview with Gustav Liliquest, International Center for Technical Cooperation, National AIDS Program, Brazil, July 24, 2009). At these venues, Lula has also criticized nations for not doing enough to help Africa (Grudgings 2009).

And finally, in June 2003, Lula convened a meeting in Brazil with the Foreign Ministers of India and South Africa to create the G-3 (IBSA) initiative. This endeavor revealed Lula's efforts to lead and reinforce a cooperative, coordinated effort to unify these emerging nations into a unified platform on international economic and social welfare issues (Zibechi 2006). By leading and working through the G-3, Lula has yet another venue for achieving his goal of strengthening

his influence while working with other nations to increase awareness and commitment to eradicating disease and poverty. In essence, the G-3 allows Lula to further broadcast his intention of becoming a key leader in development assistance as well as a voice for the poor in the developing world. Finally, by working through the G-3, Lula is able to further strengthen his diplomatic legitimacy and influence (Interview with Silvio José Albuquerque e Silva, Ministry of Foreign Affairs, July 25, 2009; Gómez 2009a).

TECHNOLOGICAL ASSISTANCE TO AFRICA

These historical and contemporary factors have motivated the Lula administration to provide innovative forms of bilateral assistance to several African nations. This assistance is based mainly on providing the technological knowledge and infrastructure needed to combat AIDS. Since 2003, Lula has been particularly interested in providing assistance to former Portuguese colonies in Africa, such as Mozambique and Angola. It has often been said that the similar language and culture that Brazil shares with these nations has facilitated the transfer of technological assistance.

It is very important to note, however, that Brazil is not reaching out to these nations *per se*, but is instead responding to direct requests from them. Mozambique, for example, was the first nation to approach Brazil for assistance in constructing a pharmaceutical plant to produce ARV medication. Other nations have worked through their

embassies in Brazil to ask the Ministry of Health for assistance (interview with Gustav Liliquest, International Center for Technical Cooperation, National AIDS Program, Brazil, July 24, 2009).

The main source of bilateral assistance that Brazil provides is not financial but rather technical knowledge for the construction of pharmaceutical labs and research institutes. While some limited financial assistance is provided by the Ministry of Health to achieve these initiatives, the government believes that for long-term capacity and sustainability, technological knowledge, training, and monitoring is more important.

In Mozambique, the Lula administration has engaged in a partnership since 2003 to help construct a plant for the production of ARV medication in the city of Maputo (Mangwiwo 2007). The main type of assistance has come in the form of establishing the human resources and technical capacity needed to construct and manage this plant (Snell 2004, Platonow 2007). To achieve this, the Ministry of Health has invited health workers and managers from Mozambique to Brasilia for workshops and training on how to construct and manage plants, as well as to learn Far-Manguinhos's analytical techniques and strategies for drug production such as NMR, IR, UV-VIS, and HPLC. In turn, the Brazilian Cooperation Agency (ABC) has worked with the Brazilian AIDS program to send health professionals and lab experts to Mozambique for on-site training. All along, the goal has been how to enhance the knowledge, training, and dedication needed to not only construct this

pharmaceutical plant, as well as the antiretroviral medicine provided by it, but also to ensure self-sufficiency. It is Lula's goal that Mozambique establish its own long-term production capacity and to distribute antiretroviral medication throughout Africa.

The International Center for Technical Cooperation on HIV/AIDS (CICT), which is housed in the Brazilian National AIDS Program, is working with officials in Mozambique to provide technical assistance in the following areas associated with drug production: monitoring, evaluation, procurement, and supply-chain management (interview with Gustav Liliquest, International Center for Technical Cooperation, National AIDS Program, Brazil, July 24, 2009). To ensure the long-term management and capacity of the plant in Maputo, it is vital that plant workers are trained to monitor the production process, evaluate its efficiency, and obtain technical equipment (some of which is being supplied by Brazil), chemicals, and other supplies seen as vital for long-term capacity (ibid). In this regard, the AIDS program and CICT is helping Mozambique learn how to establish partnerships with the suppliers of chemical ingredients (ibid). Through IBSA, Brazil is also showing Mozambique health officials how to work with Indian chemical producing factories to obtain the ingredients needed to produce antiretroviral medication.

Additionally, Brazil's Ministry of Health is now also working with Fio-cruz, the former's primary institution

for public health research, which is located in the city of Rio de Janeiro, to establish a “mini-Fiocruz” in Mozambique (Ministry of Health 2009). The government is committed to replicating Fiocruz’s focus on combining research with vaccine production, as well as studies on the effectiveness of drugs. In addition, these institutes will provide distance education courses for other research and production plants in Africa. The director of Fiocruz, Dr. Paulo Buss, sees this as vital to ensuring that Mozambique develops the research, technology, and experience needed to produce vaccines for HIV and other diseases (Platonow 2007). This, in turn, represents an effort to export research institutions, which goes beyond and complements the transfer of knowledge and management training.

AIDS prevention and treatment policy in Mozambique has also been strengthened by the Brazilian AIDS and CICT program. At the request of Mozambique’s Ministry of Health, AIDS and CICT officials are providing training on HIV awareness and sex education, as well as how to pro-actively engage NGOs and CBOs (Community Based Organizations) in order to incorporate them into the policy-making process. Brazilian health officials are world renowned for their commitment to working with NGOs, and thus have been providing years of experience in how to achieve this.

Because Mozambique was the first African nation to approach Brazil for technical assistance, the Lula administration has been especially committed to its progress (Notisur, 2003, Aquino

2008). In part, this is why Mozambique has received so much attention. Officials note, for example, that Lula continues to be concerned that the production plant has taken so long to build, and that the AIDS program needs to work hard at ensuring that it opens up this year (interview with Silvio José Albuquerque de Silva, July 25, 2009).

Brazilian health officials are world renowned for their commitment to working with NGOs, and thus have been providing years of experience in how to achieve this.

Other nations have also received assistance from Brazil. Beginning in 2005, Lula met with the President and health officials in Nigeria to start planning the production of another plant to provide ARV medication (Menezes 2005). Similar to what the Brazilian government is doing in Mozambique, the Brazilian AIDS program has agreed to provide technical training to health care workers based on Far-Manguinos’s approach to the production of antiretroviral medication, as well as training on monitoring and supply chain management for drug production.

The Brazilian government has also worked closely with Angola. In 2007, the Angolan embassy in Brasilia approached the National AIDS Program to seek assistance (interview with Gustav Liliequest, July 23, 2009). In response, Lula decided to work with the

Lula wants to ensure that his partners in Africa develop the means to protect themselves from AIDS, in turn helping to alleviate poverty and securing long-run growth.

National AIDS Program to help Angola produce a production plant for ARV medication, as well as training in public health research, which was provided free of charge. That same year, the Ministry of Health agreed to transfer staff to help Angolan scientists prepare for the construction of pharmaceutical plants (Parker 2008). These initiatives also dovetailed nicely with efforts the previous year to send Brazilian public health professors to help develop masters programs and to help cultivate a “research tradition” in Angola, which can complement work on vaccine production (Ceaser 2006). Similar to the training techniques seen in the case of Mozambique, Brazil is taking the extra step of creating another “mini-Fiocruz” in Angola (Platonow 2008). Dr. Paulo Buss’ intention is to establish a research and production plant, which capitalizes on transferring Fiocruz’s analytical techniques for uniting the two processes. Buss estimates that it will take 2 to 3 years to construct Angola’s plant and is very optimistic that they will achieve this goal (Platonow 2008).

The Lula administration has made it very clear that it plans to transfer technical assistance to other nations in addition to Mozambique, Nigeria, and Angola. The President continues

to be personally committed to working very closely with the National AIDS Program, the Department of Foreign Affairs, and the ABC to make sure that the transfer of technological knowledge and capacity-building is a priority for his administration. Lula wants to ensure that his partners in Africa develop the means to protect themselves from AIDS, in turn helping to alleviate poverty and securing long-run growth. It is a vision and philosophical belief that Lula has proffered for some time, and one that has led to the emergence of a new development paradigm.

TOWARDS A NEW MODEL OF DONOR ASSISTANCE

Brazil’s bilateral assistance to Africa submits a new development model. In contrast to other nations and donor institutions, this model is predicated more on cooperation, partnership, and the transfer of knowledge and experience. This approach also breaks from the traditional form of development assistance for health, which has historically emphasized conditionalities and a loss of policy autonomy.

Approaches to donor aid assistance in the past have often focused on short-term technical assistance in the areas of technological assistance, human resources, decentralization and infrastructural capacity (Hecht et al. 2006). They have often been hierarchical models, where the donor agency has complete authority over how money is to be used, and often failed to align properly with domestic policy strategies (Biesma 2009). These approaches

have often imposed stringent conditionalities, where nations receive assistance as long as they agree to certain policy reforms, such as the privatization of health industry or decentralization, which in turn has been known to limit policy-making autonomy (Oluonzi and Macrae 1995).

Alternatively, the Lula administration is focused on increasing cooperation and partnerships with Africa (Vaz and Inoue 2007). The government does not impose a hierarchical form of donor aid assistance with policy conditionalities. Rather, in response to specific requests from African nations, the government provides technical assistance and knowledge with the intent of establishing a long-term, ongoing partnership for capacity-building. Since 2003, the Congress has continued to support ABC's scientific and technical assistance. Brazilian officials do not engage in short-term assistance but instead believe in long-term partnerships, where short-term technical assistance is provided and followed up with periodic and long-term visits (interview with Gustav Liliquest, July 23, 2009). Through these processes health officials in Africa work with Brazilian officials to develop knowledge and expertise; these partnerships are sustained over time, in turn establishing trust and a sense of mutual obligation. The end result is a cooperative partnership that provides learning and a sense of accomplishment, which in turn sets the groundwork for continued capacity-building. Brazilian officials see this approach as far superior to

providing financial resources, imposing conditionalities, and expecting results.

The result of all these efforts is the creation of a new model for development assistance based on Brazil's approach to bilateral aid and development. The Lula administration has encouraged other nations to follow a similar model (Snell 2003). While Brazil is certainly not alone in adopting a more long-term vision towards development, one geared towards the transfer of financial resources, grants in support of technical and infrastructural capacity, as well as support to civil society through NGOs, as has been the case with PEPFAR towards Africa and the World Bank's assistance to Brazil (Araújo de Mattos et al. 2003), Brazil has developed a unique approach that can be emulated by these institutions and other nations. As I discuss in more detail shortly, for instead of providing the aforementioned types of assistance, Brazil has emphasized the transfer of knowledge, experience, and technological know-how as a way to build sustainable infrastructural capacity for combating AIDS.

CONCLUSION

In this article, I have argued that several historical and contemporary factors account for Brazil's efforts to provide technical assistance to Africa. The high praise that the Brazilian AIDS program has received historically, in addition to the government's sustained commitment to pharmaceutical infrastructural capacity over the 20th century, provided the Ministry of Health with the legitimacy needed to provide assistance

to Africa. Together with the government's long-standing partnership with Africa, Lula's moral commitment to the continent and his recent geopolitical interests, these factors have encouraged his administration to provide assistance to Mozambique, Angola, and Nigeria. Brazil has focused on providing these nations with new pharmaceutical plants for ARV production, assistance in training and management,

Brazil has not emphasized investments in human and financial resources but instead the transfer of technological knowledge, an alternative approach that helps to ensure that nations have the appropriate training and skills needed to develop pharmaceutical infrastructure and sustained access to medicine.

research institutions, and educational programs committed to helping other African nations. The result is the transfer of *technological knowledge* in lieu of financial assistance, which the Lula administration finds much more effective and sustainable.

When compared to other nations, Brazil seems to be a leader in providing this kind of technical assistance. Other emerging nations have tended to provide direct sources of health systems support, such as the provision of doctors and nurses to African nations. Indeed, part of China's "soft

power" strategy, for example, has been to engage in a form of "health diplomacy" with Africa, which entails sending doctors to several nations to train healthcare providers (Thompson 2005). Similarly, Russia and Cuba have dispatched doctors to nations such as Mozambique to combat AIDS and other infectious diseases (Vio 2006). In contrast, Brazil has not emphasized investments in human and financial resources but instead the transfer of technological knowledge, an alternative approach that helps to ensure that nations have the appropriate training and skills needed to develop pharmaceutical infrastructure and sustained access to medicine.

Among Brazil's peer emerging nations, India has come closest to Brazil in providing this kind of assistance. In February 2009, the Indian Foreign Minister, Pranab Murkerjee, announced a new initiative to provide virtual, on-line classes for medical staff, as well as medical advice to the sickly, in 11 African nations, as well as providing on-line advice to the afflicted in rural areas (Rahman 2009). Notwithstanding India's well known infrastructural capacity for drug production, as well as the private sector's success in supplying drugs to Africa (India Ministry of External Affairs 2009), in contrast to Brazil, the government has not been involved in providing technical assistance for the production of pharmaceutical infrastructure and capacity in Africa.

Thus, when compared to India, China, and Russia, Brazil's approach to development assistance has been different, emphasizing the transfer of

technological knowledge and training. A factor accounting for these differences seems to derive from Brazil's early and acclaimed response to AIDS - especially when compared to these other emerging nations (Gómez 2009b), and how this, in turn, motivates Brazil to provide this kind of assistance to Africa. As noted in this article, this response also stems from Brazil's moral commitment to assisting Africa as well as the President's geopolitical interests.

What is more, Brazil seems to be motivated by its self perception as arguably the world leader in developing the domestic infrastructural capacity needed to guarantee access to antiretroviral medicine through incessant bargaining with pharmaceutical corporations for reductions in prices for antiretroviral medication. The development of a vibrant state-own pharmaceutical industry has consistently strengthened Brazil's bargaining power for a reduction in drug prices, thus helping secure access to medicine. Given the media's incessant recognition of Brazil's successful and strategic response to pharmaceutical markets, Brazil has been inspired to help Africa develop the same kind of infrastructural and thus bargaining prowess. This motivational factor, as well as an early and successful government responses to AIDS, coupled furthermore with deep historic ties to Africa, have been absent in India, China, Russia and South Africa (Gómez 2009b).

When compared to other bilateral and multilateral agencies, approaches to health assistance in Africa have come either in the form of policy advice,

financial and technical assistance. With regards to bilateral assistance, U.S. agencies such as PEPFAR, for example, have emphasized direct streams of funding to NGOs for AIDS prevention and treatment. Multilaterally, the World Bank, mainly through the Multi-Country HIV/AIDS Program created in 2000, has emphasized funding to NGOs, political commitment, resources, and institutional capacity, as well as encouraging a decentralized multi-sectoral approach to AIDS prevention (World Bank 2008). The Global Fund to Fight AIDS, TB, and Malaria, on the other hand, has not been directly involved in these issues, but has instead emphasized country ownership and responsibility through the provision of grants to governments and organizations involved in AIDS prevention and treatment.

When compared to Brazil, however, these donor institutions have emphasized policy and financial support in lieu of technical assistance via the transfer of knowledge and country experience. The aforementioned institutions have not provided technical assistance in the form of direct and consistent consulting for the construction of pharmaceutical labs, the production and purchase of drugs, and medical education. This suggests that Brazil's type of developmental assistance is unique and stems from its successful country experience.

Brazil's assistance to Africa stands as a model for what other emerging nations can provide to Africa and other countries in their region. As noted earlier, it seems that India as well as China is

starting to develop a commitment to following Brazil's lead in helping Africa combat AIDS and other diseases. Like Brazil, these nations possess the medical, technological, and infrastructural resources needed to provide ongoing assistance, and they are becoming increasingly aware of their responsibility to do so. Yet these nations' partnerships with Africa have the potential of going beyond technical knowledge and infrastructural support: strengthening partnerships with Africa can also help to build a sense of trust and cooperation for health. There is much more to technical assistance for health than the transfer of ideas and resources.

And finally, a key lesson that the Brazilian experience provides is that it is important for poorer nations, especially in limited resource settings, to develop the pharmaceutical infrastructural and research capacity needed to provide ARV medication. Not only does this help to secure lower prices for access to medicine, mainly through bargaining with pharmaceutical corporations through the potential for producing generic medication, but it also helps to provide the supply of medication needed for universal access to medicine. In addition, Brazil's work in Africa shows that resource poor nations need to develop *self-sustaining*, enduring public health institutions and that they have the manpower and technical experience needed to tackle not only AIDS but also other infectious diseases. In short, based on its domestic experiences and success, Brazil is showing that nations must work in a cooperative manner to get the health

institutions and infrastructure right for public health, and that effective infrastructure and research is the linchpin to success in combating the ongoing HIV/AIDS epidemic.

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ALIGNING FEDERAL EFFORTS IN EMERGENCY MEDICAL CARE:

Surveying the Existing Landscape¹

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Within the United States Government, over twenty federal agencies are engaged in funding programs related to the delivery of emergency medical care (EMC). EMC distribution across the Federal Government presents significant challenges when attempting to align research agendas, policies, initiatives, and funding cycles. The Emergency Care Coordination Center (ECCC) in the U.S. Department of Health and Human Services (HHS) was established in 2009 to begin to address this challenge of coordinating government-wide EMC efforts. To this end, the ECCC in coordination with the interagency Committee on Emergency Medical Care (CEMC) established a searchable online database dedicated to identifying and organizing the myriad of federal EMC initiatives in a systematic, logical, and accessible fashion. This article argues that the development of a database that would identify, collect, and organize federal emergency care initiatives is not only feasible, but would provide enhanced opportunities to better coordinate EMC programs. Future development and population of an inclusive database would help identify areas where funding opportunities overlap, where potential gaps exist, and where unique opportunities for collaboration can be found.

INTRODUCTION

The availability and quality of emergency medical care affects the lives of millions of Americans, as more than 110 million patients visit U.S. emergency departments (EDs) each year. For example, during 2005 approximately one-fifth of the U.S. population made one or more visits

to an emergency department (National Center for Health Statistics). By 2006, there were 227 visits to a U.S. ED every minute (Pitts et al.). This volume of patient visits, coupled with the wide array of medical conditions treated, uniquely positions emergency departments as key indicators of our national health and the systematic functioning of our healthcare system.

Emergency medical care and its delivery systems involve numerous disciplines and cross-cutting themes from the standpoints of clinical medicine and healthcare policy.

Emergency medical care and its delivery systems involve numerous disciplines and cross-cutting themes from the standpoints of clinical medicine and healthcare policy. Its purview extends across the entire continuum of patient care, from the pre-hospital environment to the ED to patient transfer and/or final disposition. Moreover, there is no single ailment, disease, condition, or organ system that uniquely defines the specialty. Thus, aspects of emergency care ultimately fall within the jurisdiction of more than twenty separate federal agencies. The distribution of effort among these agencies represents a challenge for coordinating federal strategy, policy, and implementation.

This segmentation of federal activities around emergency care also engenders difficulties for the research community.

The complexity involved in locating funding opportunities, combined with the possible duplication of investigative topics, is a potential barrier to expanding the field of emergency medical research. For example, a recent article identified four separate and distinct government agencies providing funding for research in elder abuse, with each agency possessing its own funding cycle, priorities, and application mechanism (D’Onofrio et al.).

As part of an effort to improve coordination throughout the federal government, the Emergency Care Coordination Center (ECCC) was created within the Office of the Assistant Secretary for Preparedness and Response (ASPR), U.S. Department of Health and Human Services (HHS). The ECCC is charged with coordinating governmental activities relating to emergency medical care in an effort to promote consistent strategies, policies, and methods of implementation. This mission led to the establishment of the Council of Emergency Care (CEMC), an inter-agency group consisting of emergency care experts from across the federal government. The CEMC currently includes representation from relevant agencies throughout the Federal Government such as the Department of Defense (DoD), Department of Homeland Security (DHS), Department of Transportation (DOT), and the Department of Veterans Affairs (VA), in addition to HHS.

BACKGROUND: SURVEYING THE EXISTING LANDSCAPE

In order to effectively coordinate federal EMC activities, a catalog of currently existing efforts was needed. To date there have been various databases created to help inform the public of federal programs and opportunities, though no single clearinghouse encompasses the entire emergency care spectrum. As a starting point, two federal databases were examined to determine what information regarding federal emergency care initiatives was currently available.

Formerly known as Computer Retrieval of Information on Scientific Projects (CRISP), the National Institutes of Health's Research Portfolio Online Reporting Tools: Expenditures and Reports (RePORTER) site is a searchable HHS database of federally funded biomedical research projects conducted at universities, hospitals, and other research institutions. The RePORTER contains a query form allowing users, including the public, to search for specific scientific terms and techniques, or to identify individual research projects or investigators. It includes information on projects funded through the NIH, the Substance Abuse and Mental Health Services Administration (SAMHSA), the Health Resources and Services Administration (HRSA), the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), and the Agency for Health Care Research and Quality (AHRQ). Despite its utility in locating grants, contracts, and cooperative agreements funding

scientific research, the RePORTER is limited to HHS-specific projects and may be difficult to navigate without prior knowledge of specific research institutions, grant numbers, or primary investigators. Furthermore, it is not focused on emergency care initiatives.

A separate database also developed by the NIH through its National Library of Medicine and in collaboration with the FDA is Clinicaltrials.gov. This registry attempts to organize ongoing scientific investigations sponsored by the NIH, other federal agencies, and private industry. As its name indicates, Clinicaltrials.gov focuses on research studies involving human volunteers designed to answer specific health questions. The site includes both basic and advanced search mechanisms, allowing users to identify individual trials by disease or condition targeted, study location, target population, primary investigator, or sponsor. However, the site is difficult to navigate without specific information on individual trials or clinical foci. Moreover, emergency medical care itself may be underrepresented in the realm of clinical research, given that this is a symptom-based and time-sensitive field often outside the boundaries of individual organ systems, clinical conditions, and disease states. The ethical challenges involved in conducting research trials among those study participants unable to provide informed consent further complicate this field of investigation.

In short, a single, centralized repository encompassing the full spectrum of federal emergency medical care initiatives is not yet in existence. Recognizing

the need for such a tool, the ECCC embarked on an effort to demonstrate the feasibility and potential utility of a searchable online database dedicated to identifying and organizing the myriad of federal EMC initiatives.

To this end, the ECCC began gathering information regarding federally funded emergency care initiatives. CEMC partners electronically provided details on their agencies' existing EMC programs, describing each initiative with respect to the following categories: (1) program name, (2) responsible agency subcomponent, (3) program description and goals, (4) classification as a grant or research program, (5) total funding and mechanism, (6) start and end dates, (7) legal authority / authorizing legislation, and (8) contact information. ECCC staff compiled the results in a database with an eye toward gaining perspective on the breadth, scope, and focus of current federal EMC efforts.

THE DATABASE

A total of 111 initiatives and programs are included, representing the efforts of 19 separate Federal agencies. Each initiative and program is characterized by name, description and goals, classification as a grant or research program, dates, funding, authorizing legislation, and contact information.

Quantitatively, the major results of the database development process are summarized in table 1, and presented in full in Appendix 1. Overall, of the 111 EMC programs reported within CEMC member departments and

agencies, 38 programs were described as research programs, while 36 involved federal grant funding. There was some possibility of overlap for initiatives falling into both "research" and "grant" categories simultaneously. The maximum number of initiatives submitted by single agencies was 17, coming from both the NIH and the National Highway Traffic Safety Administration. In terms of quantity, the next highest contributors were the Agency for Healthcare Research and Quality with 14 EMC programs, the Centers for Disease Control and Prevention with 12, the Health Resources and Services Administration with 9, and the Indian Health Service and the HHS Office of the Assistant Secretary for Planning and Evaluation with 8 apiece (Appendix 2). The average number of initiatives submitted per agency was six.

The database of Federal EMC initiatives currently allows for the identification and categorization of the various EMC initiatives conducted by the federal government. With simple analysis, this tool can be used to inform the level of emergency care-specific engagement within each federal department. From the data gathered, 83% of the database initiatives were located within HHS, 15% within DOT, 4% each within DHS and the VA, and 3% within DoD (Figure 1). Moreover, the categorization of database programs as research, grant, or other-type initiatives (conferences, forums, publications, and the like) as shown in Figure 2 could prove invaluable when attempting to identify funding streams, possible areas of duplication, and opportunities for future collaboration.

Figure 1: Numerical Breakdown of EMC Initiatives Submitted

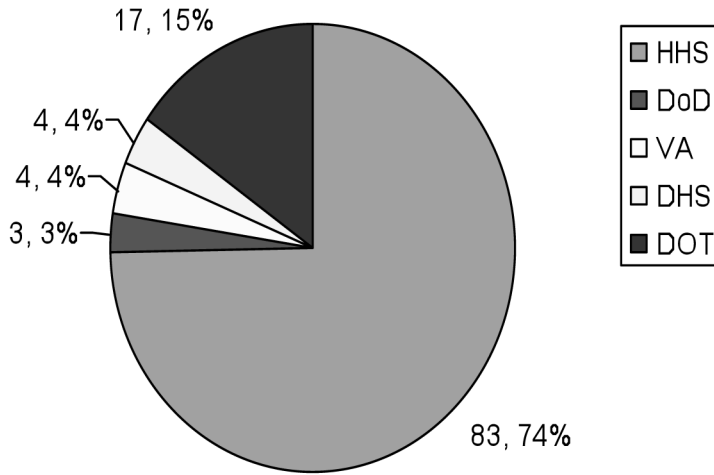
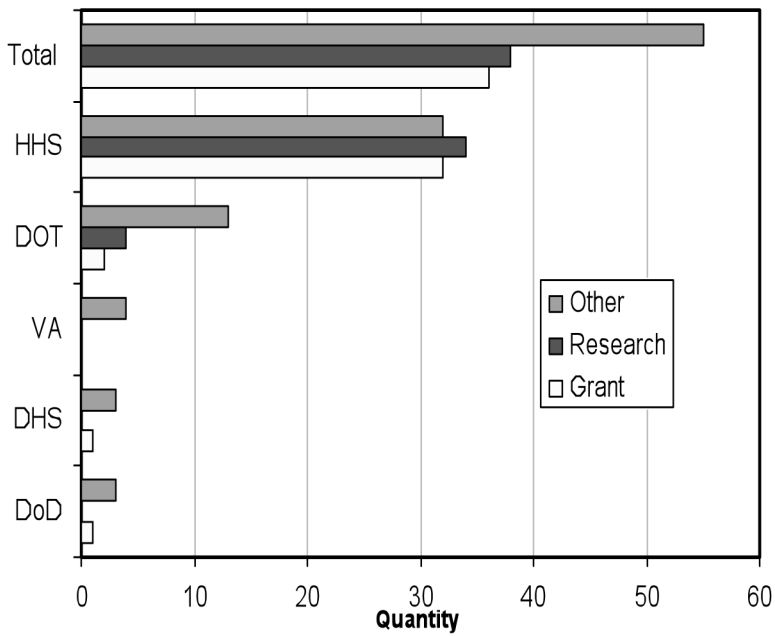


Figure 2: EMC Initiatives by Classification



This type of collaboration reinforces the membership and engagement of individual agencies in the larger emergency care community, thus increasing the likelihood that the deliverable requirements of future grants and contracts will be developed with wider audiences in mind.

DISCUSSION

The database developed during this exercise provides a better understanding of the current federal activities relating to emergency care. While not yet fully comprehensive, it provides a foundation from which agencies can begin to identify areas of overlap or potential intra- and inter-agency collaborations. For instance, demonstrating in part the potential of the database, the members of the CEMC's Research Coordination Working Group have viewed its contents in hopes of aligning future funding priorities. This type of collaboration reinforces the membership and engagement of individual agencies in the larger emergency care community, thus increasing the likelihood that the deliverable requirements of future grants and contracts will be developed with wider audiences in mind. Along the same lines, basic searches through the spreadsheet have also been useful in identifying existing examples of collaborative effort—such as interagency agreements, research networks, and

roundtable discussion series—as well as areas where future partnerships may prove beneficial.

Additionally, the database also highlights programs and activities otherwise unknown to the larger emergency care community. Due to the numerous agencies involved in funding emergency care research, it may be difficult to fully comprehend the entire spectrum of current and completed EMC efforts (D'Onofrio et al. 2009). By highlighting lesser known programs, such as the involvement of the Office of the Assistant Secretary for Planning and Evaluation (ASPE) in funding a pandemic influenza supplement to a national emergency care survey, the database might help fill that void. This functionality will be explored in greater detail in the future, as the database is intended to become a comprehensive clearinghouse of federal emergency care activities.

The primary significance of the current database, however, is as a proof-of-concept model. Through a combined interagency effort, this research established the ability of federal partners to identify, share, and organize pertinent information regarding their agencies' emergency care initiatives. The keys to successful completion of this work lay in: (1) the creation of the CEMC itself, an effort that ensured multi-agency engagement on a shared priority topic, and (2) the key coordinating role of the ECCC.

Where similar or analogous support structures exist, federal staff could similarly work together to create central repositories of programs relevant to

specific topic areas of multidisciplinary interest. Though time and effort would be required to regularly update and search through such databases, this investment would likely prove invaluable as agencies enhanced their abilities to form meaningful partnerships, make well-informed investment decisions, and reduce duplicative efforts. New or cross-cutting initiatives such as childhood obesity reduction or the expansion of health information technology may benefit from similar exercises, given that relevant initiatives will likely take place across a variety of federal agencies.

In its current state, the database on emergency medical care is demonstrative of some key utilities: it allows CEMC members to view the overarching landscape of emergency care activity within the federal government, and communicate their findings with agency leadership as desired. Yet this tool is not all-inclusive. The CEMC itself, while representative of a large number of federal offices involved in emergency care, has only existed since 2009. There is no guarantee that all relevant efforts within CEMC agencies were successfully captured within the database. Given a limited time frame in which to provide their information, CEMC members may not have had sufficient resources to capture 100% of their respective EMC programs. Future enhancements to the database should thus focus on (1) bolstering CEMC membership to reflect all of the agencies that are actively engaged in emergency care issues, and (2) addressing mechanisms for encouraging

continued participation among federal partners.

A possible second iteration of this database would include transforming the currently existing database into a publicly accessible online version. This would allow for both an external, publicly available interface as well as an internal portion allowing CEMC members to update their agencies' entries on a regular basis. Depending on the technology, future versions may even employ specially designed search agents with the capability to automate much of this process, thus reducing the time and effort required to keep database entries up to date.

New or cross-cutting initiatives such as childhood obesity reduction or the expansion of health information technology may benefit from similar exercises, given that relevant initiatives will likely take place across a variety of federal agencies.

In addition to making the EMC database publicly accessible, further iterations could serve to meet the fundamental policy goal of increasing the level of interagency awareness, coordination and transparency among federal emergency care efforts. For instance, additional categories could be added to indicate whether individual EMC projects are currently in progress or have been completed. If complete, specific

Future development and population of an inclusive database would help identify areas where funding opportunities overlap, where potential gaps exist, and where unique opportunities for collaboration can be found.

deliverables —such as conferences held, publications produced, or research conducted—could be indicated. If in progress, the entity responsible for ensuring completion could be noted. This would allow interagency federal offices, legislative personnel, and the general public to better understand what major areas of research have already been explored, what findings resulted from such activities, and how current emergency care initiatives are building off of previous efforts.

Such changes would help the nascent EMC database move closer toward achieving the original goal for which it and the ECCC were intended—that of enhancing federal coordination and collaboration, providing the fundamental foundation necessary to increase the effectiveness and efficiency of emergency care programs throughout the government.

CONCLUSION

The development of a database that would identify, collect, and organize federal emergency care initiatives is not only feasible, but provides opportunities to better coordinate EMC programs. Future development and population of an inclusive database would help identify areas where funding opportunities overlap, where potential gaps exist, and where unique opportunities for collaboration can be found. Additional endeavors encouraging federal participation and converting the information into an electronic, cross-referenced database should be explored.

**Appendix I: Compilation of Results—Quantity and Classification of
EMC Initiatives Submitted by CEMC Department and Agency**

| | Total | Grant | Research | Other |
|-------------------|--------------|--------------|-----------------|--------------|
| HHS | | | | |
| ACF | 2 | 0 | 0 | 2 |
| AHRQ | 14 | 9 | 6 | 0 |
| ASAM | 1 | 0 | 0 | 1 |
| ASPE | 8 | 0 | 6 | 2 |
| CDC | 12 | 3 | 3 | 6 |
| CMS | 5 | 1 | 0 | 4 |
| FDA | 4 | 0 | 0 | 4 |
| HRSA | 9 | 8 | 3 | 1 |
| IHS | 8 | 0 | 1 | 7 |
| OMHA | 1 | 0 | 0 | 1 |
| NIH | 17 | 11 | 15 | 2 |
| ONC | 2 | 0 | 0 | 2 |
| Department | 83 | 32 | 34 | 32 |
| DoD | | | | |
| CDHAM | 1 | 1 | 0 | 1 |
| USUHS | 1 | 0 | 0 | 1 |
| OASD(HA) | 1 | 0 | 0 | 1 |
| Department | 3 | 1 | 0 | 3 |
| DHS | | | | |
| FEMA | 3 | 1 | 0 | 2 |
| OHA | 1 | 0 | 0 | 1 |
| Department | 4 | 1 | 0 | 3 |
| DOT | | | | |
| NHTSA | 17 | 2 | 4 | 13 |
| VA | | | | |
| Department | 4 | 0 | 0 | 4 |

ACRONYMS:

HHS (Dept. of Health and Human Services)

- ACF: Administration for Children and Families
- AHRQ: Agency for Healthcare Research and Quality
- ASAM: Office of the Assistant Secretary for Administration and Management
- ASPE: Office of the Assistant Secretary for Planning and Evaluation
- CDC: Centers for Disease Control and Prevention
- CMS: Centers for Medicare and Medicaid Services
- FDA: Food and Drug Administration
- HRSA: Health Resources and Services Administration
- IHS: Indian Health Service
- OMHA: Office of Medicare Hearings and Appeals
- NIH: National Institutes of Health
- ONC: Office of the National Coordinator

DoD (Dept. of Defense)

- CDHAM: Center for Disaster and Humanitarian Assistance Medicine
- USUHS: Uniformed Services University of the Health Sciences
- OSAD(HA): Office of the Assistant Secretary for Defense Health Affairs

VA (Dept. of Veterans Affairs)

DHS (Dept. of Homeland Security)

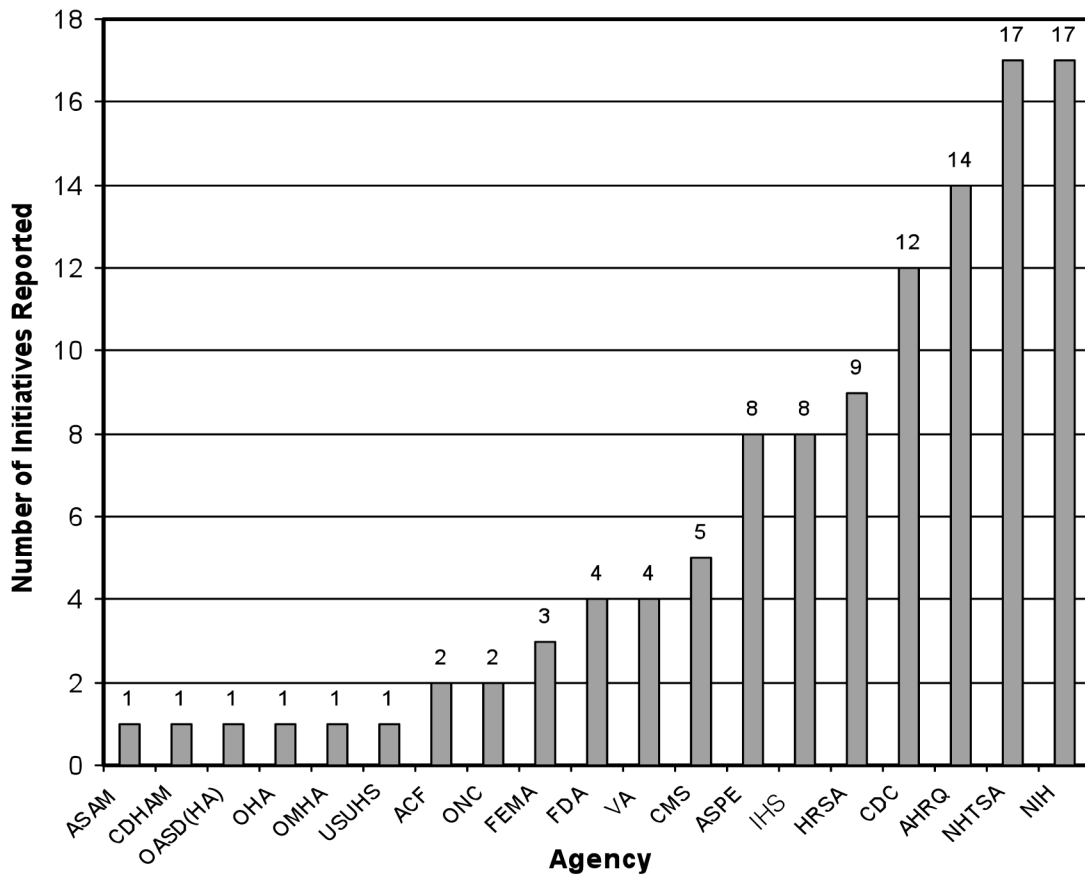
- FEMA: Federal Emergency Management Administration
- OHA: Office of Health Affairs

DOT (Dept. of Transportation)

- NHTSA: National Highway Traffic Safety Administration

Appendix 2: Quantity of EMC Initiatives Provided—Breakdown by Agency

Breakdown of Number of EMC Initiatives Submitted per Agency



ENDNOTES

1. The content of this article represents the personal views of the authors and does not express the opinion or policy of HHS or its components. The information contained in this article does not constitute legal advice. Healthcare entities and providers affected by the issues discussed in this column should contact legal counsel for specific legal advice on these matters.

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PANDEMIC INFLUENZA H1N1 2009:

Public Health Emergency Response

Christopher Eddy, Eriko Sase,
Richard Schuster

The world is in the midst of the Pandemic Influenza H1N1 2009. The United States continues to struggle with implementing systems to provide a coordinated response to such threats. In this article, the public health response to Pandemic Influenza H1N1 2009 and previous outbreaks are examined in the areas of vaccines, control of community-acquired infection, pandemic disease intelligence systems, all-hazards preparedness, zoonotic disease surveillance, social-distancing, and human rights. We found a misdirected United States response that has resulted in an unprepared nation. The disease and vaccine-specific public health campaigns currently in effect are complacent and fragmented, and disregard other emerging infectious diseases and basic prevention tenets. It also places human rights in threat. Future collaborative efforts by public health, veterinary, and medical professionals would result in zoonotic disease surveillance systems, and enhanced community infection control communications. The removal of agency contradiction during the time of an emergency would enable good decision-making and an empowered public that is both confident in its public health leaders and responsible for their own personal health. In addition, if authorities respect international human rights law and seek guidance in the principles of restrictions and limitations of human rights, the human rights of the general public, affected population, and health professionals will be protected even in public health emergencies.

INTRODUCTION

Until recently, the United States had not been tested by infectious disease outbreaks or pandemics, with the exception of relatively minor infectious disease events caused by zoonotic pathogens (infections that are transferred between animals and humans, such as SARS, Monkey Pox). In April 2009, the Government of Mexico observed rapidly increasing influenza-like illnesses with more than 854 cases of pneumonia and 59 deaths (World Health Organization 2009a). At the same time, the United States reported seven confirmed human cases of H1N1 Influenza. The infection spread throughout the world rapidly. In June 2009, the World Health Organization (WHO) confirmed that the disease reached the highest level, the “Pandemic Phase (Phase 6),” for the first time in 41 years. Further, President Barack

In June 2009, the World Health Organization confirmed that the disease reached the highest level, the “Pandemic Phase (Phase 6),” for the first time in 41 years.

Obama proclaimed the “Declaration of a National Emergency” with respect to Pandemic Influenza H1N1 2009 in October (White House 2009). By early November 2009, the WHO confirmed more than 482,300 persons had been infected by H1N1 in over 199 countries, with at least 6,071 deaths (WHO 2009b).

Prior to the Pandemic Influenza H1N1 2009 event, the global community and individual countries experienced various infectious disease outbreaks. At each phase, with various pathogens, the international community and national governments strengthened policies and guidelines to establish improved structures and mechanisms for emergency preparedness, aiming to allocate the financial and personnel resources at the most efficient and effective levels to secure public health.

At the international level, the WHO strengthened its International Health Regulations established in 2005 to “prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks.” The WHO also sought to avoid unnecessary interference with international traffic and trade and to balance regulation with the values of human rights and free trade. Under the enhanced regulations, the WHO requires states to notify the WHO of all events that may constitute a public health emergency. Since 2005, 194 states have implemented the global rules to enhance national, regional, and global public health security (WHO 2008).

In the United States, the Institute of Medicine and other health experts advocate for evidence-based policies (Institute of Medicine 2002). In 2006, the Department of Health and Human Services developed measurable evidence-based benchmarks and objective standards within the realm of the Pandemic and All-Hazards Preparedness Act.

Table I. H1N1 Influenza Virus Nomenclature by Organizations: 2009–2010

| Organization | Nomenclature |
|--|--|
| World Health Organization | Influenza A H1N1 Pandemic Influenza (H1N1) 2009 Pandemic (H1N1) 2009 Pandemic Influenza A (H1N1) 2009 Swine Influenza A/H1N1 |
| Center for Disease Control and Prevention | 2009 H1N1 Flu H1N1 (Swine Flu) Novel H1N1 Flu (Swine Flu) Swine-Origin Influenza A (H1N1) |
| Department of Health and Human Services | H1N1 Flu (Swine Flu) H1N1 Pandemic Flu |
| National Institute of Health | H1N1 Influenza (Swine Flu) |
| National Institute of Environmental Health | H1N1 (Swine Flu) |
| American Veterinary Medical Association | 2009 H1N1 Flu virus |
| Food and Agriculture Organization | Pandemic H1N1/ 2009 Influenza |
| World Organization for Animal Health | North American Influenza |
| US Food and Drug Administration | 2009 H1N1 (Swine) Flu |
| US Department of State | 2009-H1N1 Pandemic Influenza |

Note: As of March 1, 2010.

Sources: AVMA 2010; FAO 2009; FDA 2009; HHS 2010; NIH 2009a,b; NIHES 2009; WHO 2009c,d, 2010; CDC 2009a,b,c, 2010a; OIE 2009; U.S. Department of State 2010; U.S. FDA 2010

However, serious challenges remain in coordinating and managing the public health response to global epidemics. In the United States, there were difficulties in balancing the roles of both public and private organizations within the political landscape in response to these outbreaks (Hodge, Gostin and Vernick 2007). In the National Strategy for Pandemic Influenza, the Homeland Security Council recommended working through multilateral health organizations in order to enhance preparedness in the wake of the H5N1 avian influenza outbreak (Homeland

Combined public health and medical initiatives to fight infectious disease in the United States were considered so successful that the U.S. Secretary of State in 1948 and the U.S. Surgeon General in 1967 announced that infectious disease had been, or would soon become, extinct.

Security Council 2005). Yet, there has been little implication of public health-veterinary-medical collaboration. This is evidenced by the disagreement about the name of Pandemic Influenza H1N1 2009 (Table1).

Furthermore, few discussions focus on how to balance the protection of public health with the protection of human rights under emergency response action. For example, established international criteria for the restriction

of rights of affected people, i.e. the Siracusa Principles (UN Economic and Social Councils 1984), are not uniformly adopted by all countries (Sase and Gruskin 2007). Thus no resolution can be reached on when states may limit human rights and freedoms when infectious disease outbreaks occur (Tarantola et al. 2009).

This paper is comprised of two parts. Part One reviews the lessons from the past infectious disease outbreaks with respect to public health emergency response and the related policies. Part Two offers recommendations to better coordinate responses to infectious disease outbreaks.

PART ONE: PUBLIC HEALTH EMERGENCY RESPONSE

“Public Health Emergency” refers to a situation that threatens life, personal, and population health and safety, human settlements, and habitats. It is usually sudden but may develop gradually (Last 2007). This section briefly discusses public health emergency response to past infectious disease outbreaks and current Pandemic Influenza H1N1 2009 event by exploring the specific areas of vaccines, control of community-acquired infection, pandemic disease intelligence systems, all-hazards preparedness, zoonotic disease surveillance, social-distancing, and human rights.

Vaccines

Combined public health and medical initiatives to fight infectious disease in the United States were considered

so successful that the U.S. Secretary of State in 1948 and the U.S. Surgeon General in 1967 announced that infectious disease had been, or would soon become, extinct (Greger 2007). With the demise of polio and the imminent eradication of small pox, vaccines and antibiotics stymied infectious disease, ushering in an “Era of Complacency” in public health. Decades passed in which public health officials relaxed traditional control programs in the United States (Barrett et al. 1999; Greger 2007; Institute of Medicine and National Research Council 2008). Although the disease was officially proclaimed to be eradicated by the WHO, small pox vaccinations were delivered to first responders and public health officials in response to post 9/11 terrorism concerns. This resulted in weakened public health service to the community by redirecting resources away from traditional public health capacities, exposing people to risks associated with unnecessary vaccinations in the community with no demonstrated benefit (Cohen, Gould and Sidel 2004).

Influenza-specific vaccines may be formulated in anticipation of new viral strains. Nonetheless, vaccines have not been developed for other potentially pandemic disease pathogens: they cannot be prepared in advance because future pandemic infections cannot be predicted in advance, impeding the ability for public health initiatives to be preemptive to emerging infectious disease threats (Pashine, Valiante and Ulmer 2005). This underscores the need for interdisciplinary disease reporting systems and expanded

Although the disease was officially proclaimed to be eradicated by the WHO, small pox vaccinations were delivered to first responders and public health officials in response to post 9/11 terrorism concerns.

community infection control strategies to anticipate disease events as early as possible and protect the public through non-medical disease avoidance and intervention.

Control of Community-Acquired Infection

Control of community-acquired infection (coming from all sources that do not include healthcare facilities) and risk communication (the provision of information and prevention guidance to the general public) are keys to preventing amplification of contagions in the community at the residential and broader community levels. Research shows that secondary, bacterial infection (co-infection) complications, exacerbated by influenza-induced immune system suppression, were the primary cause of death during the 1918 influenza pandemic. This challenges the utility of viral vaccination programs (Jamieson et al 2010; Morens, Taubenberger and Fauci 2008), and should result in a shifting of present pandemic planning (Morens, Taubenberger and Fauci 2008).

Pandemic Disease Intelligence Systems

In 2000, the United States National Intelligence Council published a report that concluded the largest infectious disease threat to the United States “may be a previously unrecognized pathogen” (National Intelligence Council 2000). In the aftermath of 9/11, several federal mandates, including the Public Health Security and Bioterrorism Act, were developed to provide all-hazards preparedness initiatives and global disease preparedness and response networks that include zoonotic disease reporting (U.S. Congress 2006; U.S. Government

Active zoonotic disease surveillance systems should be developed in coordination with veterinary, medical, and public health reporting systems (Rabinowitz, et al 2006) because animals may present with sickness before humans, especially with bioterrorism pathogens.

Accountability Office 2005). Public health, veterinary, and medical professionals must ally, such as so-called One Health Initiative advocates, to assure preparedness for bioterrorism attacks (Rabinowitz et al. 2006). Hitherto, this has not yet been implemented.

All-Hazards Preparedness

The United States Government Accountability Office states that “all-hazards emergency preparedness efforts seek to prepare all sectors of American society—business, industry and non-profit, state, territorial, local, and tribal governments, and the general public—for all-hazards the nation may face, i.e., any large scale emergency event including terrorist attacks and natural or accidental disasters” (U.S. Government Accountability Office 2005). Priority bioterrorism agents, excepting smallpox, are zoonotic (e.g. anthrax, plague, tularemia) and may result in the presentation of viral hemorrhagic fevers in humans (Chomel, Belotto and Meslin 2007). However, systems for reporting these threats are inadequate at present (Rabinowitz et al. 2006).

Zoonotic Disease Surveillance

Zoonotic diseases are caused by pathogens that can be transmitted from animals to humans and from humans to animals. Insect disease vectors (vectors transmit disease to human or animal) also may relay disease transmission from animals to humans. It is estimated that 58% of 1,407 known human pathogens are zoonotic (Woolhouse and Gowtage-Sequerian 2005). Further, approximately 75% of emerging and re-emerging infectious diseases will be zoonotic (Chomel, Belotto and Meslin 2007). For instance, the mosquito relays the infection from birds to humans, horses and even amphibians in West Nile virus, and many other common infectious diseases that cause sickness in humans.

Active zoonotic disease surveillance systems should be developed in coordination with veterinary, medical, and public health reporting systems (Rabinowitz et al. 2006) because animals may present with sickness before humans, especially with bioterrorism pathogens. The One Health concept, advocated by the American Veterinary Medical Association (AVMA) and the American Medical Association, is an initiative that embraces and promotes a critical infectious disease interface between animal, human and environmental exposure pathways. The 2008 One Health Initiative Task Force expresses the need for enhanced surveillance and interdisciplinary cooperation between public health, veterinary and medical practice (AVMA 2010b). Nevertheless, zoonotic disease surveillance systems are lacking and functional agriculture-based reporting systems do not target wildlife or domestic pets (Chomel, Belotto and Meslin 2007).

Social-Distancing

Social-distancing is one of many non-pharmaceutical interventions to infectious disease outbreaks, which also includes travel restrictions, border control (e.g. control at harbor and airports), isolation of patients, and quarantine of (potentially) affected persons. Social-distancing is defined as a “range of community-based measures to reduce contact between people (e.g. closing schools or prohibiting large gatherings). Community based measures may also be complemented by the adaption of individual behaviors to increase the distance between people

in daily life at the worksite or in other locations (e.g. substituting phone calls for face-to-face meetings, avoiding hand-shaking)” (WHO 2007). However, social distancing methods will not stop influenza disease transmission: they will merely slow influenza disease transmission (Bell and WHO Working Group 2004).

Nevertheless, zoonotic disease surveillance systems are lacking and functional agriculture-based reporting systems do not target wildlife or domestic pets.

Cooperative global preparedness efforts that focus on the prevention of disease from all sources is preferable to public health disaster preparedness strategies based on “military models” that may undermine the relationship between community and public service (Cohen, Gould and Sidel 2004). Failed cases of quarantine, some of which involve violence and death, challenge the notion that social-distancing serves as a viable community prevention process (Henderson, Ingles and O’Toole 2002) while significant quarantine and isolation measures have not been imposed in the United States since the 1918 influenza pandemic event (Center for Disease Control and Prevention 2010b).

Human Rights

Human rights are a central element in public health policy. Responsibilities for health and for human rights are increasingly acknowledged since the creation of the United Nations

(UN) in 1945 (Gruskin and Trantola 2002). The UN Declaration of Human Rights affirms that all human beings are born free and equal in dignity and rights, as *the* fundamental human right (UN 1948). The WHO proclaims that the enjoyment of the highest attainable standard of health is one of the fundamental rights in its Constitution (WHO 1946). International laws (1976a, 1976b) guarantee these

It is only after the late-1980s when human rights protection for affected populations started to gain attention as the number of people living with HIV/AIDS grew worldwide.

rights for individuals and groups and stipulate that it is the obligation of national or international governments to preserve them (Gruskin and Tarantola 2005; Tarantola and Gruskin 1998).

Public health in practice, however, tended to primarily focus on the protection of the collective, public interests, at the cost of arbitrarily restricting individual rights (Mann 1999). It is only after the late-1980s when human rights protection for affected populations started to gain attention as the number of people living with HIV/AIDS grew worldwide (Gruskin and Tarantola 2002).

The UN also recognizes “rights related to health,” such as the right to education, food, information, privacy, freedom of movement, and freedom from discrimination (UN Economic

and Social Council 2000). International laws (UN 1976a, b) guarantee these rights for individuals and groups and stipulate that it is the obligation of national or international governments to preserve them (Gruskin and Tarantola 2005; Tarantola and Gruskin 1998).

However, restrictions may be applied when it is necessary for the prevention, treatment, and control of epidemic, endemic, occupational and other diseases (UN 1976a) as necessary to protect public health (UN 1976b). Pandemic conditions fall into such categories. It is particularly so when preventative and curative medicine are not established and/or provided requiring isolation or quarantine of people who were possibly contagious or exposed to the pathogen. This may be a conflict between preserving the public’s health and the human rights of affected populations.

The international community agrees that restriction of human rights must be a last resort in protecting public health. The UN established a set of criteria in the Siracusa Principles for when human rights limitations and restrictions are valid; (1) in accordance with the law, (2) a legitimate objective of general interest, (3) strictly necessary in a democratic society to achieve the objective, (4) not an intrusive or restrictive means, and (5) not imposed arbitrarily (UN Economic and Social Council 1984). The guidance was further developed regarding the nations in public health emergency and emphasizes that restrictions of civil and political rights should be strictly limited and justified by the state (UN 2001).

Regarding the Pandemic Influenza H1N1 2009 event, over 3,500 articles were found in the PubMed search-engine, operated by the United States National Library of Medicine and the National Institute of Health. As of November 10, 2009, however, only three articles touched upon the human rights concerns in managing the current Pandemic. This implies that the issue of how to protect, promote and fulfill the human rights of the general public, affected populations, and health professionals while emergency actions are in place has not yet been sufficiently discussed.

PART TWO: Recommendations

Three major areas of concern were discovered for public health emergency response; (a) the need for enhanced collaboration between public health, veterinary and medical practitioners, (b) enhanced and practicable zoonotic disease surveillance systems, and (c) human rights vigilance. Given these, recommendations will be drawn for the future public health emergency response.

Enhanced collaboration is central to developing a platform for the establishment of disease intelligence systems necessary for the public health response to pandemic emergency between international, federal, state and local public health, veterinary and medical practitioners. Combined with yet-to-be established zoonotic disease surveillance systems, regular information sharing will enable rapid disease detection and response. The result should be targeted community-acquired infection

risk communications to the public, the development of new vaccines, and the establishment of standard nomenclature for novel diseases involving the coordination of international health agencies. The removal of confusion and agency contradiction during the time of emergency will enable good decision-making and an empowered public that is both confident in its public health leaders and also responsible for, and appreciative of, their personal health and wellness maintenance.

The international community agrees that restriction of human rights must be a last resort in protecting public health.

Public health infection control tenets should be updated to include the many sources of disease in the community to be avoided— thus relegating forced isolation and quarantine practices under enhanced community infection control emphases. Vulnerable populations, especially the immune-compromised, such as cancer treatment patients, the elderly, pregnant women, and people living with HIV/AIDS, should be specifically targeted for *pre-event* education and future advocacy. As discussed, research on the significance of secondary bacterial infection in patients with influenza-induced immune system suppression brings with it implications that are as critical to public health *during the event*. Local public health officials should analyze community disease pathways such as food, drink, housing, and community-based events that involve animal exhibition and

exposure to untreated surface waters. Risk should be communicated to the public, including the nature of fecal-oral infection (the mode of many food and water-borne illness) in a straightforward public health message.

Human rights issues should be considered carefully—the isolation of patients and quarantine of likely or potential contacts should only be used as a last resort.

Human rights issues should be considered carefully—the isolation of patients and quarantine of likely or potential contacts should only be used as a last resort. National and international authorities must respect international human rights laws and seek guidance in the UN’s Siracusa Principles (Tarantola et al. 2009). This safeguards the rights of the general public, affected populations, and health professionals (Sase and Gruskin 2007). The use of these recommendations should enable a consistent and standardized system of response for minimizing the damage of current and future pandemic events by securing both public health and human rights. Pandemic Influenza H1N1 2009 is not the last pandemic event that the world will face—it is a harbinger of future pandemic events and the response challenges that they may present.

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CLOSING THE GAPS:

The Challenge to Protect Costa Rica's Health Care System

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Since the 1940s, Costa Rica's approach to family health care has made services accessible to a greater part of its population, significantly lowered its infant mortality rate, and increased overall life expectancy. These accomplishments have distinguished the country as a positive example for both the region and the world. However, recent research suggests that the infrastructure that enabled this success is growing increasingly incapable of sustaining momentum, and administrative flaws threaten future progress. Costa Rica cannot afford to rest on its past successes, and must address these concerns before they escalate beyond its control.

INTRODUCTION

Costa Rica is both a regional and global example of successful health care, with significant achievements in the areas of infant mortality and life expectancy (Sick 1997; Unger et al. 2008). When viewed in comparison with other Central American countries, Costa Rica has the lowest birth rate, lowest infant mortality rate, lowest fertility rate, lowest death rate, and the highest life expectancy. (Table 1).

Can this success be attributed to the country's wealth? Costa Rica's gross domestic product (GDP) per capita is significantly lower than that of the United States (Table 2), yet its health care system is ranked higher (Drayton-Brooks 2006). Wealth alone does not determine the quality of a country's health services. When considering a nation's GDP and approach to maternal welfare, Kuwait ranks 3rd in GDP but 50th in mothers' wellbeing; in contrast, Costa Rica ranks 35th in GDP, but 12th in maternal welfare (Althaus 2000). Furthermore, Costa Rica ranks among several lower income nations that have achieved similar life expectancies to wealthier countries (Wagner 2002).

How did Costa Rica accomplish its success in healthcare despite its financial limitations? What are the system's weaknesses, and what must the country do to maintain positive momentum for the future? This

paper reviews the history of the Costa Rican health care system, outlines some of its successes, identifies areas of growing concern, and considers the system's longevity.

HISTORY OF THE COSTA RICAN HEALTH CARE SYSTEM

Costa Rica's national health care system began in 1941, when the country created the Costa Rican Social Security Fund (CCSS). Before the existence of the CCSS, health care was delivered through the Ministry of Health's facilities as well as public charities and banana companies (Unger et al. 2008), and was generally only available to the working population (de Bertodano 2003). As an industrialized nation whose economy relies largely on agricultural exports, Costa Rica recognized the need to protect its workforce from farming-associated illnesses, such as hookworm and malaria (Noonan 2002).

By eliminating the risk of a military coup, the country's newly stabilized political landscape encouraged greater investment in social causes such as health care.

With the inception of the CCSS, the Ministry of Health transitioned to a stewardship role, becoming responsible for developing health care policies that coordinated and promoted services. The CCSS was tasked with financing

and providing services to the population (de Bertodano 2003). This redistribution of responsibility allowed for a greater focus on the welfare of Costa Rica's people, with the CCSS considering the protection of underprivileged groups to be a high priority (Salas and Miranda 1997). The transition enabled Costa Rica to manage state-controlled public health programs under the banner of social security (Noonan 2002) and the CCSS effectively became the sole provider of public hospital care (Unger et al. 2008).

The system saw increased funding in 1948, when Costa Rica abolished its army in the wake of its civil war. By eliminating the risk of a military coup (Lehoucq 2005), the country's newly stabilized political landscape encouraged greater investment in social causes such as health care (Page 2006; de Bertodano 2003).

The 1970s saw the system continue to expand. By this time, nearly half of the Costa Rican population was insured under the CCSS (de Bertodano 2003). The CCSS now had managerial control over the Ministry of Health and charitable health facilities, giving it full responsibility over public hospital care (Unger et al. 2008), and the country prepared its first Health Plan with the objective of universal coverage (Salas and Miranda 1997). Outreach efforts such as Programa de Salud Rural (Rural Health Program) and Programa de Salud Comunitaria (Community Health Program) worked to bring comprehensive health care services to rural areas and suburban neighborhoods (Unger et al. 2008).

EARLY REFORM AND THE PRESENT DAY

By the mid-1990s, Costa Rica recognized that spending on health care had risen without an increase in GDP to support it (de Bertodano 2003). The country began a large-scale restructuring of its medical services administration, initially estimated at US\$64 million (Salas and Miranda 1997).

Part of the reform included the creation of basic health teams known as Equipos Basicos de Atencion Integral a la Salud (Basic Teams for Integral Assistance in Health), or EBAIS (Unger et al. 2008). The EBAIS provided public clinical services in addition to those available at hospitals and privately-owned clinics. Over 800 EBAIS teams were established to help reach a wider percentage of the population (Garcia-Prado and Chawla 2006).

The reform also changed the “quasi-monopolistic position” (Unger et al. 2008) of the CCSS by separating the agency from its facilities via the introduction of management contracts (de Bertodano 2003). The contracting approach would “increase efficiency and improve quality in service delivery” (Abramson 2001), promote “management autonomy for hospitals and primary care facilities” (Garcia-Prado and Chawla 2006), and encourage providers to adopt care models which reward good performance (de Bertodano 2003).

Today, the Costa Rican health care system is comprised of five public entities. In addition to the CCSS and Ministry of Health, the National Health Service

serves as the administrator for workers’ compensation programs and rehabilitation services, the Instituto Costarricense de Acueductos y Alcantarillados (*Costa Rican Institute of Aqueducts and Sewage Systems*) manages municipal sewage services and provides drinking water, and the University of Costa Rica provides education to health professionals (World Bank 2003).

FINANCING THE SYSTEM

Since the mid-1800s, Costa Rica’s primary export of coffee has helped the country build its economy. This had the effect of developing a large and successful middle class of small family farmers, able to share financial benefits with large farmers, processors, and exporters (Sick 1997). However, the country faced economic declines during the 1980s and 1990s (Ryan 2004), as coffee prices were affected by resources, crop issues, and a fluctuating international market that was prompted by the 1989 failure of the International Coffee Organization to secure a coffee buying regulatory agreement (Sick 1997). In 1996, the Central Bank revised its monetary policy to successfully promote growth (Mirchandani and Condo 2005).

Today, the country’s economy is considered to be “open and well-diversified” and able to “protect and increase incomes” (Lehoucq 2005). Despite the economic challenges, health care remains a national priority. The country spends 6.4% of its GDP on public health – more than double that of other Central American countries,

which devote less than 3% to this area (de Bertodano 2003).

The CCSS draws most of its funding from required contributions from salary payroll tax, with additional resources from health services (e.g., private patients' fees) and other sources (Salas and Miranda 1997). The 1990s reform addressed new health priorities, including tuberculosis and cholera, warranting a restructuring of its medical services administration (Salas and Miranda 1997). The reform involved an additional US\$300 million investment from the Costa Rican government and financial development groups such as the World Bank and the Inter-Ameri-

The country's two primary political parties successfully collaborated on a universal health care system that saw the average lifespan increase to equal that of many developed nations.

can Development Bank. This generated an investment rate of return of nearly 70%, which is "returned to the population in terms of improved health status, greater productivity and better quality" (de Bertodano 2003).

ACHIEVEMENTS

Costa Rica's approach to health care reflects a combination of political leadership and social development, which can be cited by more developed countries as a proactive model for positive change in general. Coverage is practically universal, with nearly 90% of the population covered under the CCSS (World Bank 2003).

Costa Rica's infant mortality rate is significantly lower than other countries in the Central American region. Beginning in 1970, the combined factors of the country's improving health care system and general economic growth brought its infant mortality rate closer to that of more industrialized nations (Unger et al. 2008). Regardless of an individual's financial capacity, their ability to access programs such as maternal and child health services have been essential to reducing the infant mortality rate (Terra de Souza et al. 1999).

In addition to accessibility, successes like these can be attributed in part to a focused political system. Costa Rica considers its health care practices a national priority. The country's two primary political parties successfully collaborated on a universal health care system that saw the average lifespan increase to equal that of many developed nations (Echeverria 2006). This is a notable accomplishment, as life expectancy at birth reflects a nation's commitment to social investments in health, education, sanitation, environmental management, and sustainability (Kabir 2008).

Furthermore, a focused change on social mores contributed to an improved effect on health, including public health improvements, attitudes and behaviors concerning disease hazards, spacious housing to minimize spread of germs, more schooling, and better access to health clinics (Wagner 2002). Costa Rica's family planning program has been regarded as "a development success story" (Metz 2001), promoting a culture where contraceptive use is considered acceptable, and prevalent as a result (Ross and Stover 2001).

However, Costa Rica may be a victim of its own success (Salas and Miranda 1997). With a population that is living longer, there is a corresponding increase in the need for treatment of chronic conditions and the use of expensive diagnostic equipment. As this trend continues, the system requires closer examination if it is to contend with the challenges it has created for itself.

THE GAPS IN THE SYSTEM

1. Patient Dissatisfaction: Public versus Private Sectors.

Despite the distribution and accessibility of health care services in Costa Rica, there is considerable dissatisfaction with how the system provides outpatient care (Salas and Miranda 1997). Thirty percent of the nation's poor population face challenges in acquiring basic health services (World Bank 2003), and those with access can face an average waiting time of over a year. Patients seeking urgent attention are then forced to engage the private sector,

which has experienced strong growth since the 1990s (World Bank 2003).

Frustration is not limited to the public, but extends to staff as well. The EBAIS and hospitals are intended to complement each other's services, but despite an effort to make EBAIS accessible, significant numbers of primary care consultations occur in hospital emergency rooms instead, resulting in non-integrated patient care. With no administrative links between the two groups, they essentially compete for patients instead of collaborating to provide comprehensive care (Unger et al. 2008).

2. Physicians' Abuse of the System.

When compared to other Central American countries, Costa Rica ranks among the lowest in terms of spending on private health care (World Bank 2003). However, contracting services remained an important strategy in extending the availability of health care providers to target populations (Abramson 2001). This growth can be measured in an increasing range of private service providers, clinical laboratories, specialized centers, and an increase in illegal private medical insurance (World Bank 2003). Many public physicians also work in the private sector, leveraging their fees by referring patients to public hospitals (World Bank 2003).

High-cost procedures are generally directed toward the public sector, keeping private sector spending low (World Bank 2003). Since the CCSS does not manage the private sector, it is forced to accommodate an increase in

unnecessary or excessive prescriptions and X-ray requests (Unger et al. 2008). Furthermore, the CCSS also reimburses drug and laboratory costs incurred during private consultations (Unger et al. 2008). Costa Rica's health care system is effectively in the bind of paying for services that it is not in a strong position to manage, perpetuating an outpatient care system that is in crisis (Salas and Miranda 1997).

3. Inefficient Performance Evaluation.

Costa Rica began employing a strategy of contracting delivery of health services to cooperatives as a means of improving the system's efficiency. Cooperatives are founded and managed by employees of primary health care units, and have responsibility for managing a facility under a CCSS lease (Raman and Björkman 2009). Since 1988, four cooperatives have been organized to provide outpatient care, with the CCSS managing budgets and equipment rights (Unger et al. 2008). The CCSS has a vested financial interest in the success of the cooperatives, and must improve the process of defining and analyzing performance objectives. In the case of one cooperative known as COOPESALUD, the established contract objectives and evaluation model focused on the usage of health care services, but did not provide useful data on how to improve their quality and efficiency (Abramson 2001).

Inefficient health care services threaten the social perception of the Costa Rican health care system. Since the CCSS covers 90% of the population

and is financed in part by workers, it must sustain an image of quality and efficient care to maintain public support (Abramson 2001). An efficient system would serve to reassure workers as a sign of receiving value from their investment (World Bank 2003).

4. Staffing and Absenteeism.

As private health care continues to grow in Costa Rica, there is a concurrent increase in the number of physicians, resulting in oversupply (Unger et al. 2008). The imbalance creates a higher workload for nurses, which leads to a higher absence rate, and when combined with a lower salary, also contributes to a high number of resignations as well as nurses emigrating to seek work in more lucrative areas, such as Canada or the United States (Garcia-Prado and Chawla 2006).

The decentralizing approach of the 1990s health care management reforms addressed the financial concern of overstaffing hospitals and absenteeism by allowing facilities to introduce a sick-leave policy (Garcia-Prado and Chawla 2006). However, the enactment of this policy had the counter-productive effect of increasing absentee rates. Support staff would use their leave to balance the high workload, which then adversely affected motivation and absence rates among physicians (Garcia-Prado and Chawla 2006).

5. "Lost" Causes.

Costa Rica's health care system is able to cover nearly all of its population, yet some concerns are overlooked. Costa

Rica's agricultural economy exposes its workers to occupational risks such as pesticide-related illnesses (Wesseling et al. 2002); however, incidents are either underreported or misdiagnosed (Wesseling et al. 2002). This may be attributable in part to a health care system model that is focused more on procedural efficiency than delivering integrated care.

Another concern is the role and perception of women in Costa Rican society. Despite national health care reform, the country's cultural view of women did not consider their health issues a priority (Noonan 2002). Costa Rica was largely unsuccessful in establishing community involvement in participatory health care projects, yet grassroots efforts to engage the general public elevated an awareness of health issues and served to inspire attention to women's issues (Noonan 2002). However, there are still reform challenges to restructure male privilege in society and curb violence against women (Noonan 2002).

6. Infrastructure Stability and the Public Trust.

Costa Rica's national government structure inadvertently creates challenges for its health care system. The Costa Rican political system bans consecutive terms for legislators and presidents, which limits the lifespan of support for a presidential agenda, and promotes conflict between the elected branches of government (Lehoucq 2005). The turbulent nature of this system can stall health care reform, since the frequent cycling of administrative

and political viewpoints shuffle various policy agendas to the forefront of national concern.

In 2004, the public perception of

Costa Rica's health care system is effectively in the bind of paying for services that it is not in a strong position to manage, perpetuating an outpatient care system that is in crisis.

the Costa Rican government was affected by a series of corruption scandals. Former President Rafael Angel Calderon (who served from 1990 to 1994) was jailed on charges of having taken a US\$450,000 kickback from a major loan made by Finland to the CCSS for the purchase of medical equipment (Lehoucq 2005). This act may have tainted the public perception of the government's priority to the CCSS, called the agency's level of financial need into question, and perhaps even compromised the success of future programs.

During that same year, Costa Rican Secretary-General of the Organization of American States Miguel Angel Rodriguez (who also served as the country's president from 1998 to 2002) surrendered when accused of accepting a US\$1.2 million bribe to help a French firm secure a significant contract from the state-run electricity and communications company (Lehoucq 2005). Additionally, then-Executive Director of the World Economic Forum, Jose Figueres, Jr. (who served as Costa

Rica's president from 1994 to 1998), was under scrutiny for failing to report a significant consulting fee received from a private firm (Lehoucq 2005). The health system has also been caught up in these implications. Executive CCSS staff members were subject to press investigation, leading to the resignation of a CEO and several top executives (Unger et al. 2008). This pattern of corruption engendered a negative perception of the government by its people. 75% of Costa Ricans believe that corruption is generalized among public officials, which is the highest rate in Central America (Lehoucq 2005).

Negative publicity for government and its organizations can have a wearying effect on citizens and discourage voter turnout. Costa Rica has encountered a noticeable decline in civic participation (Lehoucq 2005). This decrease in public engagement may hold consequences for the welfare of the country's health care system. If the public is disenfranchised from its government, it risks losing its voice in the system responsible for its health and general wellbeing.

7. International Relations and the Economy.

International relations also play a role in the welfare of the Costa Rican health care system. Since the CCSS draws funding from both the government and payroll tax, its financial position is dependent on the status of the country's economy and its relationships with wealthier nations. While evaluating the decision to participate in the

Central America Free Trade Agreement (CAFTA) in 2003, Costa Rica temporarily halted discussions based on the United States' expressed interest in entering the insurance market. CAFTA membership would allow 99% of Costa Rica's export products and 98% of its agricultural exports to enter the United States tariff-free (Mirchandani and Condo 2005), but Costa Rica still suspended discussions in order to consider the best interests of its people (i.e., maintaining the value of the CCSS as sole public insurer), (Unger et al. 2008).

Costa Rica's past policy decisions have created potential health care difficulties with international agencies. In 1994, then-president Jose Maria Figueres Olsen ignored economic recommendations from the World Bank, which resulted in the World Bank withholding US\$100 million in financing (Unger et al. 2008). As the World Bank was responsible for financially supporting a significant percentage of Costa Rica's health care reform, this could be viewed as an action that directly affected the status of the system.

CONSIDERING THE FUTURE

Costa Rica has overcome financial and political challenges to establish a world-renowned health care system that surpasses a number of wealthier, more developed countries (World Bank 2003). However, its system is facing many challenges that require attention. While there is no one immediate course of action to navigate these concerns, there are policy options that could

lead to incremental positive change in health services.

1. Sustainable Development and Addressing Patient Needs.

Sustainable development encompasses topics ranging from conservation of natural resources to social justice, community participation, human rights, and economic growth, and is a significant point of interest for Costa Rica (Bozzoli 2000). It permeates different aspects of Costa Rican infrastructure, including the CCSS financial model. During the 1990s, the CCSS generated a surplus, despite expectations that escalating costs would increase the deficit (World Bank 2003). Although waiting times frustrate patients, they actually serve to contain CCSS expenditures by creating an opportunity for private health care professionals to receive payment directly from patients while billing the CCSS for services such as medication, laboratory tests, and x-rays (World Bank 2003). This creates a seemingly infinite self-sustaining loop: The CCSS receives money from patients, but cannot provide many services in a timely manner, so the patients go to the private sector, which in turn sends diagnostic work back to the CCSS at a rate faster than if the CCSS went through the waiting list on its own. The CCSS saves money and increases funding for itself, albeit at the cost of patient satisfaction. This sequence is essentially an informal version of a patient co-payment structure.

The CCSS is considering introducing user co-payments as a financing mechanism (World Bank), which

The CCSS is considering introducing user co-payments as a financing mechanism, which could promote a more positive patient experience through the speed and higher quality of care otherwise associated with a private facility.

could promote a more positive patient experience through the speed and higher quality of care otherwise associated with a private facility. (World Bank 2003). The co-payment structure would provide the CCSS with a reinforced financial structure and health care professionals with a greater amount of administrative freedom. Costa Rica's health care system has gradually expanded to incorporate private services to supplement its increasing burden, and could benefit from leveraging its financial considerations to address patient satisfaction.

2. Structured Decentralization.

Decentralization reforms tend to address short-term political necessities as opposed to long-range comprehensive planning (Ryan 2004). While the CCSS has taken steps toward decentralization via the expanded use of private facilities, it is important for Costa Rica to consider and evaluate the long-term effects of policy decisions. Decentralization reform could consider metrics beyond capacity assessments and resource inventories, focusing instead on more politically contextual elements, i.e., how political shifts within the

government affect the quality of health care reform (Ryan 2004).

One long-term health issue for Costa Rica to consider is how a longer lifespan will lead to significant growth in the number of elderly. This will become a financial reality within the next 50 years, as the growing number of elderly will need more specialized medical visits and hospital expenditures, leading to escalating cost (World Bank 2003).

3. Decreasing Patient Dissatisfaction.

The extended wait time to receive medical attention is a significant factor in patient dissatisfaction in the Costa Rican health care system. This problem could be eased by adjusting the diagnostic methodology of medical teams to increase focus on preventative medicine. On the CCSS level, improving the network with stronger preventative health programs would improve responsiveness to patients' changing health conditions and contribute to reducing deaths from chronic diseases and injuries (Salas and Miranda 1997). Meanwhile, the EBAIS must review the standardization and effectiveness of their mandatory preventative programs. For example, health issues such as obesity, depression, and addiction are not addressed under the standardized preventative programs, meaning that doctors are not trained to consider them during consultations (Unger et al. 2008).

4. Developing Credentials through Medical Research.

Medical research offers the Costa Rican health care system an opportunity to generate public support while attracting additional funding. Costa Rica has the highest incidence of stomach cancer in the Western world. The head of Costa Rica's early detection and prevention program reached out to Japan, which had achieved an early stage cure rate between 90% and 94%, and ultimately secured a US\$9 million investment in equipment and a five-year training program from the Japan International Cooperation Agency (Wallerstein 2001). Costa Rica could potentially build upon this example and increase the profile of its health care system by conducting extended medical research into other significant diseases that affect its population, (e.g., dengue) (Orozco 2007).

5. Considering Political Reform.

Costa Rica's 1969 constitutional ban on consecutive presidential and legislative terms took more than 20 years to evolve into a counterproductive measure (Echeverria 2006). Preventing leaders from serving extended terms makes it difficult to maintain continuity (Echeverria 2006). A 2001 proposed constitutional reform to move Costa Rica from a presidential to a semi-presidential system would force an alignment between the executive and legislative branches, which would then be capable of overcoming a politically-based policy impasse (Echeverria 2006). Such a reform must be considered carefully, and as the effects of the

1969 presidential and legislative term bans have demonstrated, needs to be evaluated on long-term merits.

CONCLUSION

Costa Rica has accomplished significant health care milestones despite periods of economic hardship, internal political challenges, and difficult international policy negotiations. However, the infrastructure supporting its health care system is being adapted in response to changing political and economic conditions as opposed to in anticipation of them, affecting the quality of service and delivery. If Costa Rica is to maintain the integrity of its health care system, it must systematically outline and approach its challenges, and consider the long-term implications of its policy decisions.

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THE U.S., CHINA, AND GLOBAL IMBALANCES:

What Has Happened and What Should Be Done?

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“In my view, however, it is impossible to understand this (financial) crisis without reference to the global imbalances in trade and capital flows that began in the latter half of the 1990s.”

— Ben S. Bernanke (Obstfeld and Rogoff 2009)²

INTRODUCTION

Debate continues about the linkage between the world financial crisis and the global current account imbalances that began in the latter half of the 1990s (Portes 2009).³ However, there is broad agreement that these imbalances are unsustainable and that it would be desirable to reduce or eliminate them. The aim of this policy brief is to describe these imbalances and to suggest measures that the U.S. and China might take to help in reducing them. Some of the measures may involve changing policies pursued in the past because they may have contributed to the size of existing imbalances. For this reason, we begin with a discussion of these past policies.

U.S. government decisions about fiscal policy, monetary policy, housing policy, and financial regulatory policy contributed greatly to the current account imbalances. Many of these same policies, in conjunction with structural problems in the U.S. financial sector, help to explain the U.S. housing boom and bust which played such a central role in the world financial crisis.⁴ However, the economic policies followed in other countries, including China, also contributed to the current account imbalances.⁵ The U.S. was able to put off difficult policy choices because of its ability to borrow cheaply from abroad, due in part to the increase in world savings and in part to the reserve currency role of the dollar.⁶ China was able to put off difficult policy choices because of its ability to keep its large reserve inflows from affecting its monetary policy. Both the U.S. and China need to make major policy changes

if they are to help in reducing global imbalances. Although what needs to be done is relatively clear, implementing the policy changes in each country will be difficult and will take time.

THE DEBATE

Some commentators have argued that the global imbalances were due to a shortage of saving relative to investment in the U.S. and some other industrial countries combined with an excess of saving relative to investment in many emerging market countries and accompanied by exchange rate policies in emerging markets designed to make their exports competitive (International Monetary Fund 2009).

Others argue that the imbalances occurred because of the reserve-currency role of the dollar and inappropriate U.S. macroeconomic policies, such as holding interest rates low for too long and running large government deficits. Since the dollar is the world's primary reserve currency, the U.S. is able to finance large current account deficits by exchanging U.S. Treasuries and other dollar-denominated assets for goods (Chen 2009).

WHAT HAS HAPPENED

Figure 1 shows that since 1970 the U.S. has had two periods of current account deficits, represented by the line below the zero line. The first period was in the 1980s. Deficits rose rapidly after 1980, increasing from 0.17% of GDP in 1980 to 3.39% of GDP in 1987 before contracting. During this period there were fiscal deficits associated with Cold

War expenditures and tax cuts and the Federal Reserve raised interest rates to bring down inflation. The mix of "loose" fiscal policy and "tight" monetary policy led to a large appreciation of the dollar in real terms. The second period of deficits started in 1992; deficits increased rapidly, peaking at 6.4% of GDP in 2006. During this period, there were fiscal deficits associated with the Gulf and Iraq Wars, as well as tax cuts. However, there were also fiscal surpluses in the late 1990s associated with increasing tax revenues from income taxes and capital gains taxes. The dollar appreciated in real terms during the late 1990s tending to increase the current account deficit.

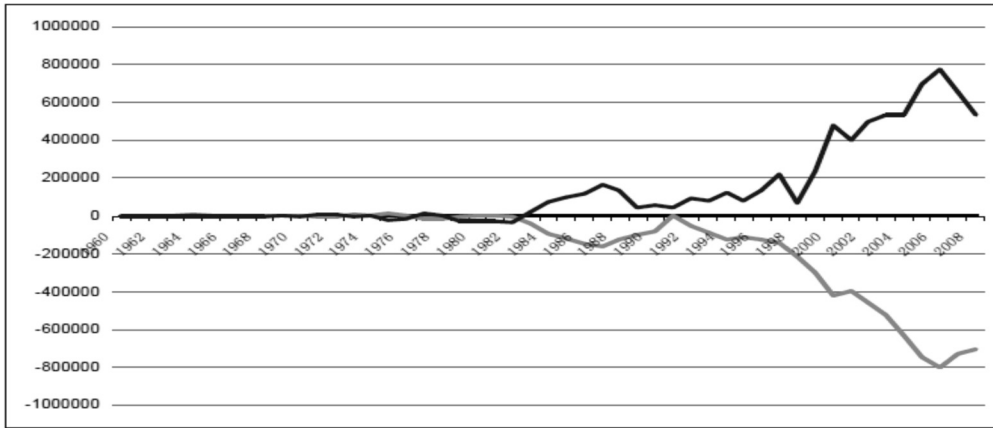
To finance the current account deficits, U.S. residents borrowed from foreign residents, both private and official. In Figure 1, these borrowings are recorded as surpluses on the U.S. financial account, represented by the line above the zero line.

As shown in Figure 2, U.S. indebtedness to foreign residents, as represented by its negative Net International Investment Position, had risen to 17% of U.S. GDP.

Figure 3 shows current account balances for the U.S. and China. China's current account was roughly in balance until the early 2000s. Clearly, U.S. deficits were growing for many years before China began to run surpluses, so other countries' surpluses were the counterpart of U.S. deficits. Thus, China did not contribute to the U.S. deficit problem initially or for many years. However, China's surpluses have

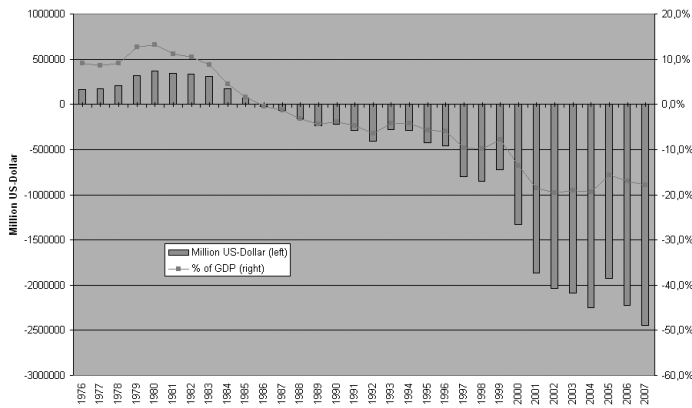
Figure 1. Current Account and Financial Account of the U.S. (1960-2008)

Unit: US\$1.0 Billion



Source: United States Bureau of Economic Analysis

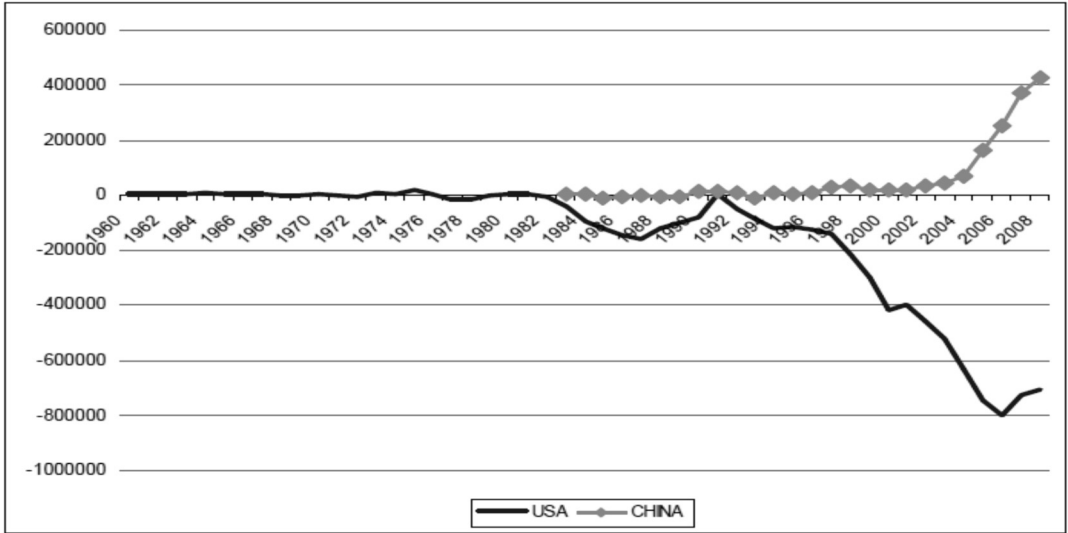
Figure 2. U.S. Net International Investment Position



Source: United States Bureau of Economic Analysis

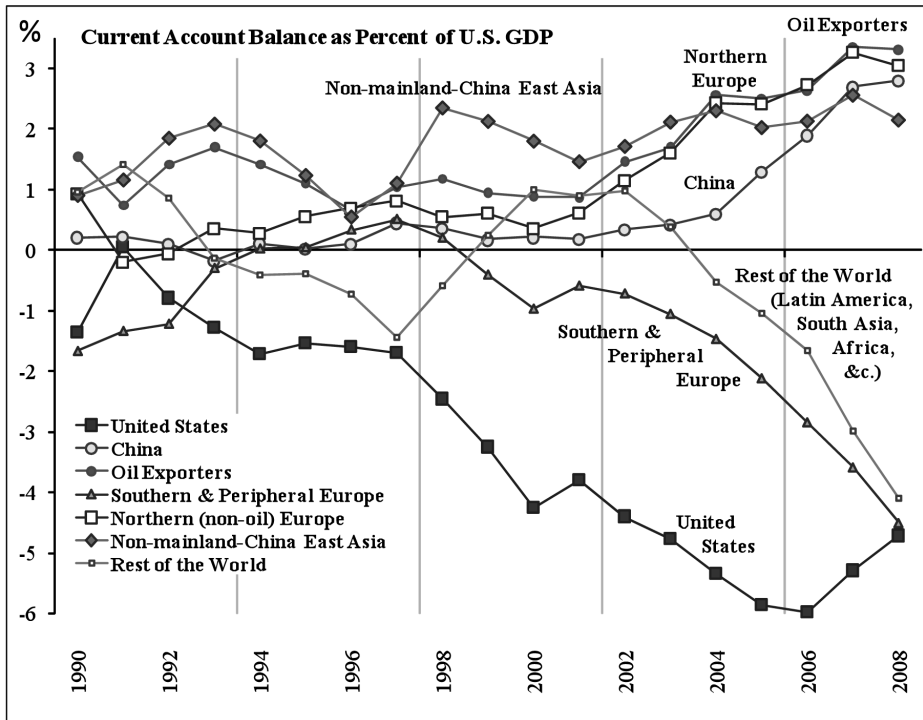
Figure 3. Balances of Current Accounts U.S. and China

Currency Unit: US\$1.0 billion



Source: United States Bureau of Economic Analysis, State Administration of Foreign Exchange of China

Figure 4: Current Account Balances of the U.S., China and Other Major Country Groups 1990—2008



Sources: Keidel 2009; International Monetary Fund 2009

grown rapidly over the last few years and are now more than half as large as U.S. deficits.

Figure 4 shows current account balances for several groupings of countries as a percentage of U.S. GDP. Several features are worth noting. The U.S. is not the only deficit country, but it by far the largest for most of the period shown. Until the last few years, three groups of countries were the major contributors to total world surpluses: the Oil Exporting Countries,⁷ Northern Europe⁸, and Non-Mainland-China East Asia.⁹ Non-Mainland-China East Asia is the group with the most persistent and, until 2004, the largest surpluses. Before the Asian crisis in 1997, the surpluses of this group were falling, but they picked up again thereafter. China contributed very little to total world surpluses before the early 2000s, but it is now clearly a major contributor. In recent years it has accounted for roughly 20% of total surpluses. Its contribution is comparable to that of each of the three groups of countries which are the other major contributors.¹⁰

A FRAMEWORK FOR ANALYZING CURRENT ACCOUNT IMBALANCES

The basic national income identity can be used as a framework for analyzing current account developments. According to this identity, net private saving,—the excess of private saving (S) over investment (I)—plus government saving,—the excess of taxes (T) over government spending (G—must

equal the current account surplus—the excess of exports (X) over imports (M):¹¹

$$(S - I) + (T - G) = (X - M)$$

(Net Private Savings) + (Government Saving) = (Current Account)

In order for there to be a current account surplus,

$$(X - M) > 0,$$

the sum of net private savings and government savings must be positive, that is

$$(S - I) + (T - G) > 0.$$

Note that, either net private savings or government savings may be negative as long as the other is positive enough to offset it.

We can use the framework to describe the situation in the U.S. as the well as the situations in surplus countries like China and other East Asian countries. In the U.S., net private savings and government savings are both negative, and there are current account deficits.

In China, both private saving and investment are large fractions of GDP, on the order of 50% and 40%, respectively. China's relatively large positive net private savings exceed its relatively small negative government savings, so it has had current account surpluses on the order of 10% of GDP in recent years (Corden 2009). While the pursuit of surplus and accumulation of international reserves may once have been an important objective of Chinese policy, it is no longer. Chinese policymakers have been advocating for international

balance for some time. Indeed, reserve accumulation has made Chinese monetary policy more difficult.

Current accounts have also been in surplus in other East Asian countries. In these countries, net private savings have been high, as private savings remained high while private investment declined. Investment fell for several reasons, including the absence of attractive investment projects and an inability to obtain credit. Like China, many of these countries have pursued a policy of export-led growth supported by an exchange-rate policy that keeps exports competitive. For several of them, the accumulation of reserves has been an important objective because they want to avoid a recurrence of the Asian crisis.

LENDING TO THE UNITED STATES

In the U.S., both the private sector and the government have clearly been willing to be net borrowers from the rest of the world in ever increasing amounts. Why has the rest of the world been willing to lend? As shown above, several groups of countries have contributed to global current account surpluses by seeking or being willing to live with positive national savings. Different groups of countries may have different reasons for saving. Among the countries of East Asia, there have been two main reasons for wanting to save: a desire to build up reserves to forestall or mitigate future crises and a desire to pursue growth strategies that rely heavily on exports.

Several countries in East Asia have shown a desire, or at least a willingness, to build up large international reserves by running current account surpluses.¹² The dollar remains the world's most important reserve currency, so these countries have wanted to purchase substantial amounts of dollar assets. To be useful in crisis prevention and management, reserve assets must be safe and liquid, so it is not surprising that U.S. Treasury bills would be an attractive choice despite the fact that they pay a relatively low interest rate.

U.S. interest rates and the value of dollar may have been affected when the East Asian countries (and other countries) built up their reserves because of the international role of the dollar. U.S. interest rates may have been kept lower and the value of the dollar higher than they otherwise would have been. This possibility has been acknowledged by the Chairman of the Federal Reserve Board:

“For example, the dollar probably strengthened more in the latter 1990s than it would have if it had not been the principal reserve currency, enhancing effects on the U.S. current account.” Bernanke (2005)

What about countries like China that are not so much interested in building up large stocks of reserves but want exports to play a large role in their growth strategy? If their export strategy involves keeping their currency pegged to the dollar at a value that makes their export goods particularly attractive to U.S. purchasers, they must buy dollars on the foreign exchange market and

hold dollar assets of some form. Safe and liquid U.S. Treasury bills that pay a low rate of interest are one alternative but there are other dollar-denominated assets.

WHAT SHOULD BE DONE?¹³

The most effective way for government policy to help achieve better balance in the U.S. and in China is for both countries to take coordinated measures. This can be seen by considering four scenarios ranging from no action, to action by just one country, to coordinated action by both.

Scenario 1: No adjustment in Either Country.

Under this scenario, the global imbalances continue. Both countries achieve some growth in the short run as a result of their countries' stimulus packages, as long as the U.S. continues to borrow to buy from China, and China continues to use its foreign exchange reserves to buy U.S. Treasuries. However, at some point this symbiotic relationship will break down as the U.S. cannot continue borrowing indefinitely and China cannot continue investing in U.S. Treasuries indefinitely. China has already begun to worry about the value of the dollar and the fiscal soundness of the U.S. The loss of confidence in the U.S. will lead to another collapse of the financial markets and an economic crisis.

Scenario 2: Adjustment only in China.

Chinese people and companies save less and consume more. China reduces

exports to the U.S. and reduces purchases of U.S. treasuries. Other countries (primarily in Asia) replace China as the main exporter to the U.S. The U.S. continues to borrow internationally from others to finance its trade deficit. The global imbalances continue. There is eventually another collapse when the U.S. is no longer able to borrow to finance its current account deficit.

Scenario 3: Adjustment only in the U.S.

The U.S. government and U.S. consumers save more and spend less. This reduces the U.S. trade and fiscal deficits. China has to deal with the fall in exports and its excess export capacity. The resulting pressure will force China to make structural adjustments.

Scenario 4: Coordinated adjustment in both countries.

Theoretically, there are two mechanisms in this scenario which are not mutually exclusive. One is structural adjustment in economic aggregates. The other is adjustment in the exchange rate.

For the structural change, for the U.S. to reduce its trade deficit, it has to reduce imports and expand exports, increase saving and reduce the government deficit, and assume the responsibilities associated with the reserve-currency role of the dollar. China has to do the opposite. To reduce its trade surplus, it needs to reduce exports and increase imports, reduce saving and expand domestic consumption, reform its income distribution system, and change its economic development

pattern. Structural adjustment will be a long-term task, and it is also a fundamental one.

For exchange rate adjustment, some scholars argue that a country whose exchange rate appreciates will export less and buy more from the rest of the world. If this argument is correct, an appreciation of the Chinese renminbi vs. the dollar would reduce the global current account imbalances.

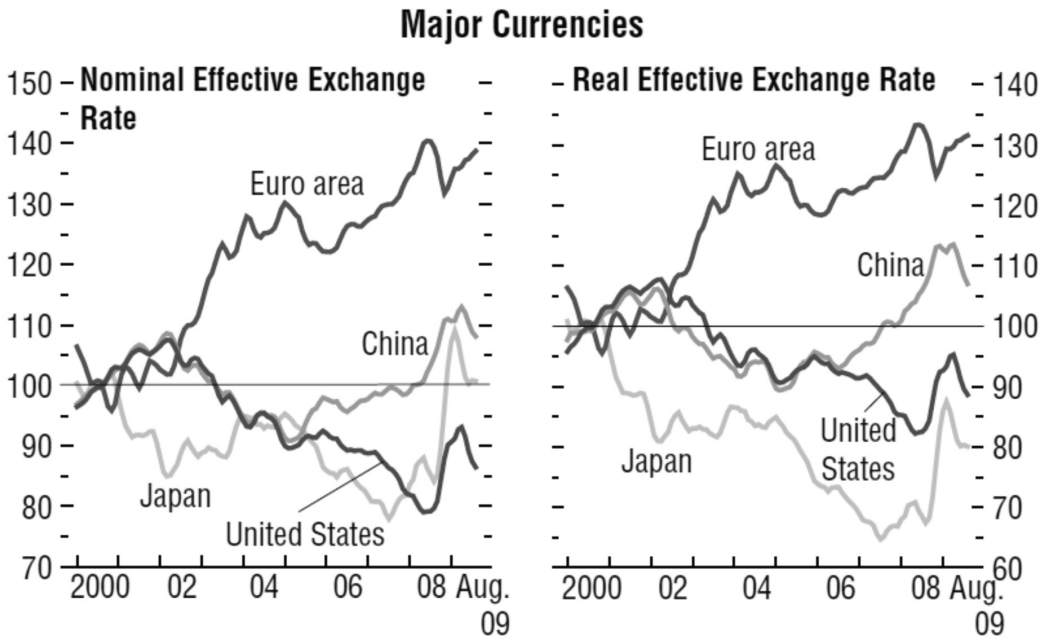
There was some difference in views between the delegations about the role of changes in exchange rates. In the view of the Chinese delegation, it is possible but very unlikely that an appreciation of the renminbi would reduce the current account imbalances. They argue that in practice, historical experience and data indicate that the effectiveness of exchange rate adjustment is limited, and its result is uncertain. Therefore, they conclude that structural adjustment is a better option.

In the view of the U.S. delegation, current account improvement requires both exchange rate adjustments *and* structural changes in national saving. They argue that the current account does not improve automatically when there is an increase in national savings. In their opinion, private agents must be persuaded to import less and export more by exchange rate adjustments that make home goods cheaper relative to foreign goods.

POSSIBLE NATIONAL SAVINGS POLICIES IN THE U.S.

To help reduce global current account imbalances, the U.S. must raise national saving. There is broad agreement that any attempts to do so must await economic recovery. However, it is useful to discuss measures that could be taken when the time comes. In principle, U.S. national saving could be increased by raising either net private saving or government saving. It would be very helpful if U.S. consumers could be induced to save more. However, over the years, many inducements have been offered in attempts to increase consumer saving with very limited success. There is not much interest in the U.S. in lowering investment, which is viewed as being necessary for growth and technological progress. Of course, the government could take direct action to raise government saving, either by cutting spending or by raising taxes. This task is made more difficult because government transfers and spending are expected to increase to cover the rising costs of entitlement programs and to pay for needed investments in public and social infrastructure such as roads and education. As a start, tax cuts passed under the Bush administration are going to be allowed to expire on schedule. There are precedents for fiscal consolidation in the U.S., for example the retrenchment of the mid 1980s. However, there is no doubt that government deficit reduction will be difficult and that it will take time.

Figure 5. Nominal and Real Effective Exchange Rates for Major Currencies



Source: International Monetary Fund 2009

POSSIBLE NATIONAL SAVINGS POLICIES IN CHINA

The problem faced by China (and other East Asian countries) is exactly the opposite of the problem faced by the U.S. It must reduce both net private saving and government saving, decrease exports, and increase imports. In China, as in the U.S., making structural changes is easier said than done.

Chinese private savings are 40% of GDP, half by households, the other half by firms.¹⁴ The savings of Chinese households are mostly precautionary. They set aside substantial proportions of their incomes to provide for possible future needs because the social safety

net in China is not yet fully developed. Households may not have access to any or all of the following: a pension system, health insurance, life insurance, and unemployment insurance. Chinese firms save because the banking system still favors state-owned enterprises and lacks a culture of financing promising private sector projects.

To reduce household saving, there are several policies that the Chinese government might try. First, it might see to it that households, particularly poor households, receive a larger share of national income because they are likely to spend a higher proportion of their incomes. Second, it might make improvements in the social safety net such

as (a) increasing the coverage for urban residents and (b) extending coverage to rural residents, migrant workers, and part-time workers. In China, just as in the U.S., making structural changes will be challenging and time consuming,

EXCHANGE RATE ADJUSTMENT

As stated above, adjustment of current account imbalances may require changes in exchange rates. According to Figure 5, some adjustment had already taken place before the financial crisis.

The U.S. dollar had depreciated in both nominal and real terms and the renminbi had appreciated in both nominal and real terms. The adjustment process was temporarily reversed during the financial crisis as investors moved into the dollar which they regarded as a safe haven. For the time being, the renminbi is being pegged to the dollar. Many observers believe that further dollar depreciation and RMB appreciation is required. It is not at all clear when adjustment might resume.

CONCLUSIONS

There seems to be general agreement on several points. First, it is desirable to reduce global current account imbalances in general and the U.S. deficit and Chinese surplus in particular. Second, a cooperative approach to adjustment with participation by both the U.S. and China is preferable to no adjustment and to adjustment by China or the U.S. alone. Third, national savings will have to increase in the U.S. and decrease in China. Fourth,

the changes in national saving will require structural changes that are likely to be difficult and time consuming.

There is some disagreement about the importance of dollar depreciation and renminbi appreciation. One view is that if changes in national savings are made, exports and imports will adjust. The other view is that even if changes in national savings are made, exchange rate changes will have to occur in order to induce the desired movements in exports and imports.

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The situation has changed significantly since the two conferences were held. In the U.S., the government deficit has increased. However, the private saving rate has also increased, primarily because of an increase in the personal saving rate. The result has been a reduction of the U.S. current account deficit from its high of about 6% of GDP to about 4%, a level that is still high by historical standards. In China, the policies to expand domestic demand have been effective, and domestic consumption has increased rapidly. In 2009, the total volume of retail sales for social consumer goods increased by 15.5% compared to the year before, which is far higher than the GDP growth rate. The trade surplus has decreased and is expected to decrease further. Progress has been made in both countries. However, more adjustment is needed, and the prospects are unclear.

ENDNOTES

1. This policy brief is the result of conferences attended by faculty of the Central Party School of the Chinese Community Party, and faculty delegations of Georgetown University held in Washington D.C. on May 19, and again in Beijing on October 12, 2009. At each conference there was a lively exchange, and by the end of the second there was some convergence of views. Contributors of this policy brief are Chen Qiqing from the Central Party School and Carl Dahlman and Dale Henderson from Georgetown. The views expressed in the policy brief are those of the contributors and do not necessarily represent the views of the institutions with which they are associated.
2. The quotation originally appeared in Bernanke (2009).
3. Portes argues that the imbalances were the primary cause of the crisis.
4. Housing booms and busts in several other countries with causes similar to those in the U.S. also help to explain the financial crisis but are not considered here.
5. This view is expressed by the Georgetown delegation. The CCPS delegation does not agree.
6. The increase in world saving is referred to as a “saving glut” by Bernanke (2005).
7. These are Venezuela, United Arab Emirates, Saudi Arabia, Qatar, Russia, Oman, Norway, Nigeria, Kuwait, Iran, Canada, Azerbaijan, Angola, & Algeria.
8. These are Switzerland, Sweden, Netherlands, Germany, Finland, Denmark, Belgium, & Austria.
9. These are Vietnam, Thailand, Taiwan Province, Singapore, Malaysia, Korea, Japan, & Hong Kong SAR.
10. The exact number for 2007 is 21.4 according to Corden (2009).
11. Strictly speaking the current account equals the trade balance plus net factor income from abroad plus unilateral transfers. For both the U.S. and China the trade balance is over 90% of the current account.
12. In there are two ways that a country can increase its international reserves without running a current account surplus. One way is to borrow long-term and hold the proceeds in short-term assets. Another is to receive a share of a distribution of an international reserve asset like the SDR. However, many countries cannot borrow except perhaps at exorbitant rates. Also, there is little likelihood of a distribution of an international reserve asset anytime soon.
13. This section draws heavily on Chen (2009).
14. In contrast, private savings are roughly 15% of GDP in the U.S.

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