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Prospects for Sino-U.S. Naval Cooperation against Avian Influenza

THIS CHAPTER SEEKS TO INCREASE AWARENESS among scholars, analysts, and policymakers concerning the potential danger posed by an outbreak of avian influenza and concerning Sino-American efforts thus far to militate against such a contingency. It is based on the author's preliminary examination of Chinese news reports, technical papers, and public statements. The study begins by explaining the unique importance of China, the Asia-Pacific's largest developing member and home to 800 million people who live in close contact with more than 15 billion poultry, to avian influenza prevention efforts. It then surveys a range of relevant Chinese domestic and cooperative initiatives. Avian influenza poses a particularly significant threat to residents of the Pacific Basin, including some three hundred thousand U.S. forces and their dependents. The strategic planning goals formulated by the U.S. Pacific Command (PACOM) to respond to a pandemic outbreak in the Asia-Pacific region are therefore outlined. Given the importance of cooperation between countries in combating a pandemic, the chapter also explores the challenges and opportunities inherent in Sino-American cooperation to combat avian influenza. This may be a particularly productive area of cooperation for the U.S. and Chinese militaries, perhaps especially their navies, which possess significant resources and expertise yet historically have had difficulty cooperating because of dif-

ferences in political systems and national interests. The global threat of avian influenza may be one area in which Sino-American collective security interests are so great as to outweigh these competing concerns.

China as a Major Stakeholder

Avian influenza (禽流感 in Chinese), which has the potential to assume pandemic proportions, poses a large and growing threat to international security. The Severe Acute Respiratory Syndrome (SARS) outbreak of November 2002–July 2003 infected more than eight thousand in thirty-seven nations, killed roughly eight hundred, and reduced China's 2003 GDP by 0.7 percent.[1] According to the World Bank, an avian influenza pandemic could have an adverse economic impact of $2 trillion.[2] Experts estimate that an influenza pandemic in 1918 killed as many as 50 million individuals across the world.[3] While ten pandemics have erupted in the past three centuries, the eleventh will be the first to occur in an instantly interconnected world.[4]

No nation is safe from the pandemic influenza threat, and every nation is essential to defense efforts. In one indication of the importance of such efforts to international economic stability, Robert R. Morse, Citicorp's Asia-Pacific head, has stated, "We do not view the possibility of avian flu as an Asian issue, we view it as a global issue."[5] In response to this worldwide challenge, important progress has been made already.[6] At a major international conference to combat avian influenza, China's vice foreign minister Qiao Zonghuai noted that "our destinies are interconnected. In the fight against avian influenza, no country can stay safe by looking the other way."[7] Cooperation is vital to defend against pandemic influenza. Robust partnerships involving the United States, Japan, South Korea, Australia, New Zealand, Association of Southeast Asian Nations (ASEAN) member states, other Asia-Pacific allies, and nations around the world will be critical.[8]

However, several factors make China worthy of particular focus for U.S. policymakers and medical experts. China will likely be at the center of a pandemic influenza crisis. China possesses 20 percent of the world's population and more than 14 percent of its disease burden.[9] It is home to some 800 million people who live in close contact with more than 15 billion poultry, and it thus possesses a potential reservoir for the incubation of avian influenza that is perhaps unequaled anywhere in the world.[10] China also has "1,332 species of migratory birds, over 13 percent of the world's total."[11] The persistence of conditions analogous to those detailed above over decades explains why "most flu

pandemics in recorded history originated in South China" (including, possibly, the 1918 Spanish Flu, as well as the 1957 Asian flu, and 1968 Hong Kong flu).[12] Since 2003 at least fourteen people have died from avian influenza in China.[13] China's massive scale and vulnerable populations thus give it a unique importance in disease control measures. Despite continuing challenges in relations between the United States and China, therefore, no effort to stem the spread of infectious disease will be complete without cooperation between what are respectively the world's largest developed and developing nations.

As two Asia-Pacific nations potentially threatened by pandemic influenza, the United States and China have significant shared interests in the area of the prevention of large-scale outbreaks of devastating infectious disease. The two nations also share a strategic interest in fighting other unconventional threats such as terrorism.[14] Thanks to its largely apolitical and nonreligious nature, the combating of pandemics, even more than counterterrorism, offers common ground upon which to build a basis for bilateral and multilateral cooperation. Given the important work that remains to be done before effective cooperation between the United States and China can be fully realized, however, this chapter will be devoted to demonstrating the extent to which the two great powers share an interest in combating avian influenza, and suggesting how robust collaboration toward this end can more fully be realized.

China's Current and Potential Contributions

Dr. Jilan Liu, special advisor for Center for Health and Aging, National Bureau of Asian Research, assesses that "China experiences sporadic cases of avian influenza every year, but seems to track, handle, and isolate the cases well."[15] Dr. Liu explains: "China's overall preparedness for disaster and epidemic response has improved enormously since 2003. Many people in the world still have fresh memories of China's initial ineffective response to SARS in 2003. But most people do not know how quickly and effectively the Chinese government learned from it and put that learning to good use in building a very good disaster response system. Disaster planning has been beefed up considerably."[16]

China has already allocated more than $246.6 million for domestic efforts to control avian influenza.[17] These efforts include building a network of monitoring stations to track transmission of avian influenza by migratory birds and its infection of humans.[18] Chinese officials are simultaneously working to raise awareness, coordinate preventative measures including extensive poultry vaccination, and build a more efficient reporting system between provinces.[19] The

last is an attempt to address the fact that, particularly in recent years, interprovince coordination has posed a particular challenge for Beijing. The $100 million China Information System for Disease Control and Prevention (CISDP) is "currently the largest in the world for reporting infectious disease cases." CISDP uses Web-based, real-time data reporting on thirty-seven diseases (including high pathogenicity avian influenza and SARS).[20] China is also working to reform its overall healthcare policy and infrastructure, which faces challenges in the areas of "population size and diversity; disparities in economic welfare between rural and urban China; insufficient or inconsistent medical education and training; misaligned incentives for primary care and early health activities; and a lack of standards within and among health institutions."[21] Although it still has some improvements to make, China has made rapid progress in using health information technology, on which it already spends $700 million annually. The 2003–10 Ministry of Health guidelines for health information technology development in China "call for the introduction of EHRS [electronic health records] and regional health information networks to be implemented throughout the country."[22]

China has been similarly proactive in the international arena. Beijing has a significant history of health diplomacy on which to draw, having sent 6,500 health workers to aid 72 million people in forty-two countries from 1963–82.[23] Since 2001 China's Yunnan Province has participated formally in the Mekong Basin Disease Surveillance (MBDS) network, which has been credited with facilitating a coordinated regional response to the 2003 SARS crisis. The scalable nature of MBDS offers the potential to expand it to cover additional nations.[24] Since 2002 Beijing has organized high-level health dialogue mechanisms with Washington, Moscow, London, and Tokyo. In reflection of the special importance that it attaches to avian influenza as a nontraditional security threat in Southeast Asia, China has also done so with ASEAN, organizing in 2004 a "China-ASEAN special meeting on the control of avian influenza, which committed all parties to implement the meeting's recommendations," and subsequently a China-ASEAN Public Health Fund to finance relevant initiatives.[25] In 2005 China adopted the World Health Assembly's International Health Regulations (IHR 2005). As part of a larger opening up post-SARS, this facilitated the sharing of information on communicable diseases with the World Health Organization and foreign scientists.[26] That November, in a welcome contrast to Indonesian claims of "viral sovereignty," China accepted WHO requests to deliver additional avian influenza virus samples to facilitate international research.[27] In April 2006 Dr. David Nabarro, UN system coordinator for influenza, met with Chinese officials "to discuss China's role in

the international control of avian influenza and preparation for dealing with any possible influenza pandemic."[28] During that same month, China hosted the "Asia-Pacific Economic Cooperation Symposium on Emerging Infectious Diseases." Other relevant forums in which China participates include the ASEAN+3 Summit, the East Asia Summit, and the Asia Europe Meeting.[29]

Chinese universities, government research institutions, and corporations have responded to the growing challenge of avian influenza by conducting what official Chinese media sources report to be cutting-edge research in the prevention and treatment of infectious diseases.[30] A wide variety of research is being conducted by students and faculty members at academic institutions all over China, apparently with particularly prolific contributions from the Chinese Academy of Agricultural Sciences (中国农业科学院), China Agricultural University (中国农业大学), Shandong Agricultural University, (山东农业大学), and Yangzhou University (扬州大学).[31] Academic conferences have been held periodically in China to disseminate research results.[32] In December 2005 China's Ministry of Agriculture announced that Harbin Veterinary Research Institute had developed the "world's first live vaccine against bird flu."[33] In 2005 China's State Food and Drug Administration implemented a fast-track approval process for pandemic influenza vaccines.[34] "A major advantage of China's research into the bird flu virus is our technical reserve and capacity to meet emergencies," Vice Science Minister Liu Yanhua concludes. "They are powerful resources."[35]

Having played a significant role in the handling of the 2003 SARS crisis, China's People's Liberation Army (PLA) can claim valuable experience with regard to infectious disease control measures.[36] In 2004 the PLA published a practical pamphlet on techniques for dealing with avian influenza.[37] In fact, due to its large network of high-level hospitals and research facilities, the PLA holds jurisdiction over a crucial element of China's disease prevention responsibility and expertise. Academy of Military Medical Sciences researcher Li Song recently reported that his team had "completed clinical experiments" concerning a new Chinese drug similar to Tamiflu "and find it is more effective on humans than Tamiflu."[38] While little data are available in the West concerning the specifics of such achievements, the PLA is so central to China's medical infrastructure that it would probably be difficult to engage deeply with China in the prevention of avian influenza without also engaging with elements of the PLA.

U.S.–China Cooperation to Date

In domestic, bilateral, and international forums, the United States and China have already made considerable, if preliminary, progress in combating avian influenza. In April 2005, for instance, the U.S.-China Global Issues Forum began to discuss such matters as public health.[39] In October 2005 Chinese minister of health Gao Qiang signed an agreement with the U.S. Department of Health and Human Services to enhance cooperation on avian influenza and other infectious diseases.[40] On 19 November 2005, the United States and China announced a "Joint Initiative on Avian Influenza," through which the countries' respective ministries of health and agriculture will "strengthen cooperation" concerning vaccines, detection, and planning.[41] Such bilateral measures could offer a model for U.S. cooperation with other nations.[42]

At the January 2006 Ministerial Pledging Conference for Avian Influenza, attended by seven hundred representatives of more than one hundred nations, including the United States, Chinese premier Wen Jiabao stated that "China will continue to actively participate in international cooperation in avian influenza prevention and control, share our experience with related countries and help them fight avian influenza."[43] Paul Wolfowitz, president of the World Bank, emphasized, "By hosting this event in Beijing, the Chinese Government is sending a powerful message . . . that we urgently need a global commitment to share information quickly and openly, and to find ways to work together effectively."[44] Such information exchange has already been facilitated by a draft agreement signed on 20 December 2005, affirming China's intention to share "virus samples isolated from human H5N1 cases" with the World Health Organization.[45] At the end of the conference, representatives matched their words with substantive actions. The World Bank agreed to contribute $500 million; the Asian Development Bank, $470 million; the United States, the largest national share at $334 million; and China, $10 million (in addition to its significant relevant domestic spending, as detailed earlier).[46] As of October 2006, virtually all the $1.9 billion granted at the Pledging Conference had been committed.[47]

In September 2006 presidents George W. Bush and Hu Jintao agreed to establish a Strategic Economic Dialogue.[48] Five meetings were held between 2006 and 2008. Health and food and drug safety issues were discussed in two subforums: by the U.S. Department of Health and Human Services and Chinese Ministry of Health in a U.S.–China Health Care Forum, and by the U.S. trade representative and the Chinese vice premier responsible for trade under a Joint Commission on Commerce and Trade. Drawing on these improved contacts, in November 2008, the U.S. Food and Drug Administration offi-

cially opened offices in Beijing, Shanghai, and Guangzhou to help ensure the safety of Chinese exports to the United States.[49] Since April 2009 these efforts have continued via U.S.-China Strategic and Economic Dialogue, established by presidents Barack Obama and Hu Jintao.[50] On 6 May 2009 Hu telephoned Obama to express "sincere condolences" for two recent American H1N1 influenza fatalities and to express China's determination to "maintain communication with the World Health Organization, the United States, and other parties, as well as strengthen cooperation, to jointly deal with this challenge to human health and safety."[51]

Other examples of Sino-American cooperation regarding pandemic preparedness include the Joint Science Academies' statement on avian influenza and infectious diseases, whose signatories include Lu Yongxiang of the Chinese Academy of Sciences and Ralph Cicerone of the U.S. National Academy of Sciences. Noting that SARS caused as much as $30 billion in economic damage, and affirming the accomplishments of the Beijing ministerial pledging conference, the statement calls for "coordinated actions on a global scale by a whole spectrum of stakeholders including governments, scientists, public health experts, veterinary health experts, economists, representatives of the business community, and the general public."[52] To ensure that these recommendations are carried out, however, it is necessary to explore in depth the potential roles of the U.S. and Chinese militaries in combating avian influenza. No pandemic disease-prevention efforts will be complete without the robust involvement of these two powerful and influential organizations. Given the U.S. military's strong presence throughout the Asia-Pacific region as well as the abundance of relevant information thanks to its relative transparency, its potential role in such efforts will now be examined in detail.

The U.S. Pacific Command's Role and Contributions

The United States and China share a tremendous interest in preventing outright, or at least containing and mitigating the effects of, an outbreak of pandemic influenza. Like Beijing, Washington has a strong interest in maintaining a global environment that is safe for economic development and trade. In contrast to China, however, the United States in recent decades has had both the capability and the willingness to use its military to further such goals on a global scale. The U.S. military is thus often used to provide security for the benefit of not only American citizens but also those of other nations around the world, as when the U.S. Navy secures the economically vital global maritime

commons against criminal activities, piracy, terrorism, or even the actions of hostile states that might seek to disrupt it. One potential instrument for securing the global health environment in the event of a medical crisis, therefore, is the U.S. military. Yet to provide such public goods effectively, the U.S. military must first be able to protect its own personnel and equip them to perform their duties even under the most adverse conditions.

In light of its substantial global responsibilities, the U.S. military cannot afford to be immobilized by pandemic influenza. Yet the widespread deployment of U.S. forces and the sheer scope of their military operations illustrate the difficulties inherent in guarding against this contingency. This challenge has been recognized, and extensive preparations have already been made. The Department of Defense and the Department of Veterans Affairs are envisioned as a critical foundation. According to the U.S. federal government's official Web site for information related to avian and pandemic influenza: "We currently have pandemic influenza plans in place that address how we would take care of DOD [Department of Defense] and VA [Veterans Administration] patient populations and others, as well. DOD and VA are authorized by several laws and policies to provide care to persons who are not their usual patients in the event of national or local emergencies or disasters."[53]

Within the U.S. government, efforts to prepare for pandemic influenza are apportioned as follows: the Department of Homeland Security has overall responsibility, the Department of Health and Human Services oversees domestic efforts and medical issues, the Department of State manages public diplomacy (and most overseas issues), and the Department of Agriculture manages issues relating to animals, including birds.[54] A variety of other agencies also cooperate in these efforts.[55]

PACOM, due to its scope of operations and interactions with regions in Asia known to be potential incubators of avian influenza, is also on the front lines of the pandemic influenza threat.[56] Although not itself a lead agency in avian influenza prevention efforts, PACOM is preparing to support the U.S. government in its effort to combat domestic and international outbreaks of influenza.

In the event of pandemic influenza, PACOM must be prepared to maintain the operational capabilities of U.S. forces and to protect military troops, civilians, and dependents as well as PACOM's military bases and facilities. This will be a difficult task: PACOM's area of operation spans 169 million square kilometers over sixteen time zones (roughly half the Earth's surface) and encompasses thirty-six nations that are collectively home to more than half of the world's population, the world's six largest armed forces, five of the seven U.S. mutual defense treaties, and 35 percent of U.S. trade (more than $550 bil-

lion).[57] The dimensions of PACOM's responsibilities are extended by the fact that about 350,000 U.S. troops (one-fifth of the total U.S. armed forces) are based in the region.

Given the potential for pandemic influenza to spread rapidly and to inflict devastation on human societies, PACOM must develop coordinated capabilities that can rapidly respond to, address, and continue to ensure the function of relevant organizations during such an outbreak. Because this is a task that no nation can accomplish alone, proper prevention and treatment will hinge upon multilateral cooperation. Effective information sharing will thus be essential to the success of such a broad-based effort. Because of the potential need to actively involve law enforcement agencies and even militaries from many countries in the Asia-Pacific region and around the world, significant mutual trust is essential if preparation efforts are to succeed.

U.S. Preparations to Protect Troops, Dependents, and Asian Neighbors

To assist U.S. forces, military dependents, and citizens of other countries as they prepare for an influenza pandemic, PACOM has developed a set of planning goals to address all foreseeable contingencies. These goals involve regional cooperation, preparation and prevention, containment, and recovery.

PACOM is currently seeking to improve the regional security environment by cooperating with Asia-Pacific nations. PACOM is well aware that preparations for avian influenza have been more thoroughly tested in some Asian countries than in the United States, which thus far has been fortunate not to have suffered from H5N1 avian influenza. The United States has much to learn from experts in the countries that have experienced clusters of H5N1 infection.[58] To facilitate this learning process, the United States plans to build a Pacific region coordination center that will "allow rapid communications, coordination, and information sharing among the 43 [Pacific] nations, their militaries, international organizations, and U.S. interagency representatives active in the Pacific."[59] It is hoped that this effort will forge a positive basis for collective health security.

Two additional aspects of current operations to shape the health security environment involve preparation and prevention.[60] Toward this end, in October 2005 PACOM sponsored the Public Health Emergency Officer Influenza Seminar in Pearl Harbor, Hawaii.[61] Information awareness is an essential component of security maintenance. For this reason, the Military

Medical Laboratories Syndromic Surveillance Network is actively monitoring more than thirty sites in Southeast Asia for the eruption of infectious diseases. In the event of an actual outbreak, laboratories in Indonesia and Thailand will help both the host nation and WHO's Surveillance Network for Influenza to better track the spread and evolution of the disease so that appropriate countermeasures can be taken in a timely manner. In a recent issue of *Nature*, medical experts urged that this existing network of rapid response laboratories should be enhanced in collaboration with WHO to emulate U.S. Naval Medical Research Units, which were established after World War II to protect U.S. troops overseas.[62] To minimize the chances that U.S. forces and related personnel will contract and transmit avian influenza, the U.S. Department of Defense has been stockpiling the drug Tamiflu at PACOM bases. As of February 2006, 6 million doses had been stored.[63] In November 2005 PACOM held a "Tabletop Exercise" to test preparations for a pandemic. PACOM has used a variety of venues including ASEAN, Chiefs of Defense meetings, and Noncombatant Evacuation Operations planning meetings to help provide forums for discussions on pandemic influenza and to share planning ideas with a number of foreign government and military leaders.

In the event of a pandemic, PACOM would support the relevant U.S. agencies as they worked with Asia-Pacific nations and WHO to contain the outbreak. Given the potential of the United States to provide substantial aid, the U.S. government would also likely work to support any recovery efforts that might ensue because of the outbreak. Potential regional challenges stemming from an avian influenza outbreak in the Asia-Pacific region might include damage to the regional economy and threats to domestic stability.[64] Economic threats could involve the disruption of transnational supply chains as well as reductions in foreign direct investment and local spending. During the 2003 SARS outbreak, for instance, "110 out of the 164 countries with which China had diplomatic relations placed at least some restrictions on travel to China."[65] "International travel to affected areas fell by 50 to 70 percent, hotel occupancy dropped by more than 60 percent, and businesses in tourism-related areas failed."[66] This caused between $50 and $100 billion in economic damage.[67] The Asia-Pacific region alone is estimated to have borne $40 billion of this cost.[68] Threats to domestic stability could occur in those Southeast Asian nations that rely heavily on poultry production as well as in those Pacific island states that might be particularly vulnerable were a significant portion of their relatively small populations to be threatened with infectious disease. At a panel discussion at the Asia Society in New York City in 2006, senior UN system influenza coordinator Dr. David Nabarro stated that the U.S. government had made

commendable efforts to prepare for pandemic influenza but that far more international cooperation was needed to address the threat.[69]

PLA Preparations

China's government has organized a comprehensive disaster response system relevant to combating avian influenza. Dr. Liu explains:

> China's disaster preparedness planning process is led by the central government (the State Council), and all ministries, (with the Ministry of Health and Chinese Disease Control and Prevention in an important position). It has a clear command and control structure penetrating all levels of government throughout the entire country. The roles and responsibilities of all the hospitals and other sectors are clearly defined. The supply chain connects directly with manufacturers (with built in just-in-time production mechanisms) and transportation companies. The coordination and communication mechanisms have the capacity to reach large populations pretty much anywhere in the country, involving not only the formal structure to connect all the organizations, but also the media and internet to connect volunteers and population at large. China's surveillance system is now perhaps the most sophisticated in the world.[70]

The PLA has an important role to play as part of this larger structure and process. All elements of the Chinese armed forces engage in societal activities (e.g., disaster relief and some infrastructure development). An unknown number of civilians (technical specialists, administrative and custodial staff, administrative contractors, and local government-paid staff) also support PLA operations. The PLA is developing in a fashion that promises to better support such nontraditional missions as combating avian influenza. In the fall of 2008, a PLA officer at the Academy of Military Science outlined the following trends: new laws and regulations have greatly facilitated PLA capacity building in humanitarian assistance and disaster relief. China's National Defense Act has made disaster relief one of the PLA's major tasks. The State Council and the Central Military Commission (CMC) promulgated relevant regulations in June 2005. In October 2006 the CMC issued a disaster relief contingency plan that discusses in detail guiding principles and specific measures for implementation and regulates coordination between civil and military authorities. When a serious disaster occurs, the State Council will set up leading committees,

with the participation of leading agencies, to which the PLA will send representatives (including from the General Staff). Local governments will establish disaster relief committees, invite military officers of equivalent rank to attend discussions, and task the PLA with disaster relief work if necessary. If the situation is urgent, local military forces should get to work immediately and report to the senior command. The PLA's combat operations command system supports disaster relief work. All army coordination work is overseen by an emergency response officer under the General Staff Department. New operational sectors above the regimental level have been established for humanitarian assistance and disaster relief work. Because China constantly suffers from natural disasters, the PLA is strengthening relevant training and making preparations. Under the 2008 guidelines for military training, disaster relief training has become daily routine training for military units. Troops also conduct exercises with local governments. Equipment has been improved for professional relief teams.

An excellent example of the PLA's significant ability to respond to natural disasters within China is its rapid response to the tragic Great Sichuan Earthquake of May 2008. In Dr. Liu's assessment,

> China's 2008 Beichuan earthquake was a major test of its disaster preparedness system. It responded very promptly, very effectively overall. All of those major elements were tested and they scored very well. Of course, some issues were identified. With an earthquake of that magnitude, nobody can respond perfectly. But it was as good as any country could have pulled together, much better than America's response to Hurricane Katrina. I feel very confident about China's disaster preparedness, based on their response to the earthquake. A response to an outbreak of avian influenza would have some different elements and resource management, but the response to this major earthquake demonstrated that China has its domestic disaster response system pretty much worked out, including their communicable disease surveillance system, and their CDC's response mechanism. China's disaster response system, including its pandemic response system, is probably as good as any nation has currently.[71]

China has begun small-scale, low-level military cooperation with ASEAN regarding humanitarian assistance and disaster relief. For now, in one PLA officer's opinion, "the political significance exceeds the practical significance." China–ASEAN cooperation is a good model for China–U.S. cooperation, but cooperation should be increased among Asia-Pacific nations as well. Because

this kind of cooperation is less sensitive, it can be implemented in three ways: (1) promoting exchanges between and among different nations' military academies; (2) conducting joint exercises and training and sending small teams of officers to other countries for training to improve their capabilities; and (3) enhancing cooperation between defense sectors, particularly at the higher levels, to "learn from experiences." The officer clearly stated his opinion that "if disaster relief cooperation stops at the academic level, it is not meaningful."

U.S.–China Military Medical Cooperation: Challenges and Opportunities

The fight against avian influenza has proven fertile ground for enhanced levels of U.S.–China cooperation overall. There is now potential for both countries to build upon this success in the area of military medical information exchange. Military medical information and related technology lacks direct application to offensive warfare for the United States and China, both parties to the Biological Weapons Convention, and is abundantly available in both countries.[72] China's substantial experience and expertise concerning avian influenza, particularly within its military, raises the possibility of both China and the United States benefiting substantially. Concerns that such mutual benefit could not be achieved, in part because of differing conceptions of transparency, has frustrated previous military exchanges. Perhaps there is now a chance to bridge that gap. Admiral William J. Fallon, former commander of PACOM, has already extended an invitation to the Chinese military to engage in a discussion concerning avian influenza.[73] In March 2006 a PACOM medical team met with medical leaders in the PLA to discuss pandemic influenza planning efforts and opportunities for the U.S. military and the PLA to work together. If the United States and China can engage in military exercises, surely they can cooperate to combat avian influenza, a mutual enemy that spares no one on the basis of nationality.

To be sure, progress must be made in several areas for this goal to be realized. First, the overall strategic situation will likely influence Beijing's willingness to participate. A prominent Chinese academic has told the author that the 2003 Joint Statement of the ASEAN+3 Labour Ministers Meeting in Mataram, Indonesia, and the March 2004 China-ASEAN Joint Declaration on Dealing with the Avian Influenza Crisis were positive steps, but that the ASEAN forum is "inefficient in crisis."[74] At the same time, traditional security issues and historical issues impose limits on cooperation. For instance, the United States

held the Pacific Military Management Seminar in Hawaii to discuss cooperation in non-traditional security fields, including how to establish a cooperative mechanism and structure. China wanted to attend but cancelled because of U.S. arms sales to Taiwan. Choosing the appropriate counterparts with whom to raise the possibility of cooperation is also important. A PLA officer has told the author that the subject of avian influenza is too specialized for many PLA officers to address, and suggests that the General Logistics Department and the Health Ministry have the most relevant expertise.

Perhaps most importantly in terms of specific challenges, the timely flow of information must be improved. A challenge common to the CISDCP and MBDS networks is a lack of integration between surveillance, data sharing, and response between the animal and human health sectors.[75] Minister of Health Zhu Chen, for instance, has advocated increasing surveillance of animal health. This may help to bridge the gap and align prevention efforts more closely with the needs of developing societies that cannot easily afford to lose farm animals to zoonotic viruses.[76] International cooperation faces challenges stemming from both the Chinese domestic political landscape and concerns that Chinese scientists receive proper credit for their research overseas.[77] Aside from domestic politics, one major reason for the minimization of U.S.–China military contacts has been U.S. concern that military transparency and cooperative benefits will be asymmetric. This discrepancy might be partially addressed, however, by first determining which areas demand an absolute equality of exchange, and which disparities might be compensated for by alternative areas of comparative advantage and willingness to share information and other resources. Cooperation undertaken in response to the mutual threat of avian influenza could be an excellent place to begin efforts to improve overall military relations between the United States and China.

During the 2003 SARS crisis, which has been described as "the most severe social or political crisis encountered by China's leadership" since Tiananmen, Premier Wen Jiabao told fellow officials that "the health and security of the people, overall state of reform, development, and stability, and China's national interest and image are at stake."[78] Yet there is a widespread perception, both inside and outside China, that Beijing's attempts to control information backfired, thereby hampering international response efforts and undermining domestic public confidence.[79] Recently, however, there appears to be growing official recognition that transparency is essential to good governance and public safety. An October 2005 *China Daily* opinion editorial underscores the importance of increasing transparency in furthering China's own national interests:

> Unlike the SARS . . . outbreak in 2003, when the nation was in panic . . . [and] the authorities' initial foot-dragging left the public nervous . . . we can see a substantial change in the government's response this time around. The response has been prompt. . . . More importantly, information sharing with international health institutions appears to be timely, smooth and comprehensive. These are some of the lessons learnt from the fight against the SARS epidemic. . . . A better-informed and thus better-prepared public is conducive to its own safety in the face of a life-threatening epidemic. . . . There is no harm if people are honestly informed about what is happening and what is at stake. And there obviously is room for improvements regarding transparency. Also, we find it imperative to upgrade our involvement in international efforts to cope with bird flu.[80]

Although the *China Daily* typically contains content that is different from official domestic Chinese-language media sources in order to influence a Western audience, the outlook expressed here is refreshingly realistic and positive, in marked contrast to previous silence or even questionable statements concerning this issue. In any case, it is clear that, in the words of Liu Depei, Chinese Academy of Medical Sciences, "China has learned a great deal from its experience with SARS."[81]

Furthermore, as unexpected challenges surrounding America's own highly disappointing Hurricane Katrina relief efforts in October 2005 demonstrate, responding to large-scale natural disasters is inherently difficult and requires substantial preparation, coordination, and learning from previous problems.[82] Avian influenza, which has the potential to inflict far greater human suffering with far fewer warning signs, could challenge government response efforts unlike any other natural disaster. At the same time, however, preventative and emergency measures can drastically reduce the impact of a potential pandemic. As the policy measures and official leadership and media statements listed earlier suggest, Beijing is to be commended for its continued, and apparently strengthening, efforts in this regard.

The United States and China are now at the point where their common challenges outweigh their differences. Dr. Liu offers a major example:

> One of the issues that China faces, and the entire world faces, would be the size of its stockpile of vaccines, in the event of an outbreak of avian influenza. The fact that it takes quite long to produce vaccines for the specific string makes just-in-time production difficult. Ideally, it should have enough H5N1 vaccines for the 1st (and 2nd) dose for

a large population. For a small-scale outbreak, China should have enough vaccines and medication, plus a strong system of isolation to bring it under control; for a larger outbreak, it is more uncertain. But this is an issue for the entire world.[83]

A Logical Place to Begin

Cooperation against the threat of avian influenza could build mutual confidence and generate momentum for initiatives in other areas. As Dr. Liu explains, "There is already considerable collaboration between China and the U.S.: some very successful, some less so. The most effective areas for cooperation are narrowly defined fields of science and research, and of course, in commerce."[84] In addition to enhancing communication, the building of more robust and extensive bilateral contacts could give both sides a healthy respect for each other's capabilities, thereby reducing the chance of dangerous miscalculations. Ongoing tensions in U.S.–China relations are based in part upon differences in national interests that are likely to endure. A positive bilateral military relationship alone will not resolve those tensions. But such a relationship could offer realistic first steps that might serve to outline and safeguard mutual interests and thereby provide incentives to avoid unnecessary escalation and avert serious crises as the two nations seek to realize stable, if competitive, coexistence. China, situated at the potential epicenter of an avian influenza outbreak, has a particularly vital role to play in infectious disease control. Already, according to Dr. David Nabarro, Asia as a whole has made substantial progress in preparation for an influenza pandemic.[85]

One way to increase mutual understanding and goodwill would be for Chinese and U.S. researchers to translate unclassified Chinese documents—starting with those concerning avian influenza and related public health threats—into English and to facilitate their wider distribution among Western experts. Such dissemination could increase Western knowledge of Chinese advances in disease prevention and control, which are reportedly numerous and rapid—particularly in specific technological areas. This might help to set the stage for follow-on medical research—perhaps supported with an innovative combination of government and private sector funding—that could exploit the synergy between U.S. technology and analysis and Chinese ability to conduct large-scale experiments and biotechnological production in a cost-effective manner and without an excessive regulatory burden in areas that do not pertain directly to human health. Moreover, Western analysts and scholars

could use knowledge of China's disease prevention efforts and security challenges to augment their understanding of China from a broader perspective.

It must be emphasized that a more robust and nuanced spectrum of U.S. analyses of China, such as could be facilitated by greater transparency concerning Chinese military medical progress, is in China's own national interest. After all, like its counterparts around the world, the U.S. military is duty bound to anticipate and prepare for worst-case scenarios. But more optimistic projections and positive-sum suggestions produced by other analysts who are free from such responsibilities are extremely important as well. Such analyses could further elucidate the great benefits that the United States and China might derive from effective cooperation in a wide range of areas. Otherwise, exclusive focus on the possibility of conflict could negatively influence U.S.–China relations by overshadowing these other vital areas.

At very least, the origins and purposes of military medical and other analyses should be made transparent where possible by their authors and kept in proper perspective by those who consume them. This can be facilitated by efforts on both sides of the Pacific, even in the absence of explicit intergovernmental cooperation. There is substantial room for improvement in both nations. American analysts must strive to better understand important nuances of increasingly robust (though often still somewhat opaque) Chinese policy debates in order to differentiate between official government policy and opinionated reports from China's ever-livelier media. This effort would be greatly facilitated if more Americans would develop their often-inadequate language skills—Beijing can be surprisingly transparent *in Chinese*. Chinese analysts, who already tend to be far more capable linguistically than their American counterparts and quite sophisticated in their ability to trace political debates, would do well to document their assertions with ample specific references, such as footnotes, to explain where they obtained their information. While slowly improving and already achieved by some highly advanced journals such as the Chinese Academy of Social Sciences' *American Studies* (美国研究), the overall dearth of such citations in both Chinese scholarship and official government reports makes it extremely difficult even for foreigners fluent in Chinese to assess the quality of data being presented. This is particularly true in the exacting fields of science and medicine, in which a vaccine's efficacy must be proven in a manner that is replicable by experts around the world, not simply announced without supporting evidence.

These significant challenges should not distract us from the larger issues at stake: that a significant threat to humanity can be, and must be, averted. This collective responsibility requires cooperation across national boundaries

regardless of political differences. A sense of humility and respect is vital for effective cooperation to be realized in practice, however. As Dr. Liu observes,

> Both China and [the] U.S. have the capacity to play leadership roles in the response to pandemic outbreak. The U.S. and China need to build infrastructure for cooperation and coordination if joint leadership and response is needed. At present, there are lots of exchanges; avian influenza experts in the West already collaborate with their Chinese counterparts, and vice versa. But it needs to be broadened and deepened. Again, if joint leadership and response is expected, ongoing scientific collaboration needs to be applied to policy and command structures. A superiority complex on the part of any country could jeopardize effectiveness when it comes to working together. Under time pressure, the negative effects of such an attitude would be intensified.[86]

In this spirit, through translation and analysis of Chinese sources, I have endeavored to increase awareness among Western scholars, analysts, and policymakers of important Chinese developments and their potential relevance to Sino-American cooperation against avian influenza. The bottom line is that differences in other national interests should not prevent the United States and China—or, for that matter, all other nations—from recognizing their growing collective interests in combating emerging threats such as that of pandemic influenza. As Admiral Michael Mullen stated in 2005 as U.S. Chief of Naval Operations, "in today's interconnected world, acting in the global interest is likely to mean acting in one's national interest as well. In other words, exercising sovereignty and contributing to global security are no longer mutually exclusive events."[87] And as a Chinese proverb cautions, "disasters know no boundaries" (水火无情).

Notes

The views expressed in this study are solely those of the author as a private individual. This study is based only on publicly available sources and does not represent the official position or analysis of the U.S. Navy or any other organization of the U.S. government. A previous version of this chapter appeared as Andrew S. Erickson, "Combating a Truly Collective Threat: Sino-American Military Cooperation against Avian Influenza," *Global Health Governance: The Scholarly Journal for the New Health Security Paradigm* 1, no. 1 (January 2007), http://ghgj.org/Erickson_1.1_Combating.htm. The author is grateful to Stephanie Black, Robert Goldstein, Yanzhong Huang, and Jilan Liu for their helpful com-

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ANDREW S. ERICKSON, LYLE J. GOLDSTEIN,
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