

first point is that public bureaucracies will surely retain primary, day-to-day responsibility for making decisions on everything from advance planning to first response to tactical operations. The second point is that the bureaucracy's bosses and clients will continue to use their influence and authority to shape bureaucratic decision making, but only in those instances where the political stakes are visibly elevated. Together these insights mean that it will not always be easy to assign credit and blame for homeland security successes and failures. All such efforts should naturally start with the bureaucracies of the executive branch, yet it must also be recognized that these agencies function as part of a larger political system that itself is subject to various, often contradictory, outside impulses.

The broader challenge for public officials who seek to assess the performance of DHS and, more broadly, the war on terrorism, is that it's extremely difficult to specify with any precision the number of terrorist threats averted and the number of lives saved. For example, we can say that the Transportation Security Administration seized 2,500 guns in carry-on luggage in 2015, and that 83 percent of these guns were loaded.<sup>177</sup> But we can't say whether any of those guns, if not confiscated, would have led to a hijacking attack. An additional problem, as noted earlier, is that the nature of the terrorist threat has undoubtedly changed since September 11, 2001, with a growing emphasis on "lone wolf attacks" and with the frightening specter of a "dirty bomb" or a chemical attack looming ominously over the horizon. One thoughtful observer sums up the current state of events in this way: "Are we safer? Yes, we're safer from the kind of orchestrated attack that shocked us. . . . It's harder for terrorists to get into the country, and harder for them to pull off something spectacular if they do. But we have not plugged some of the most threatening security gaps. . . . Our defenses are far stronger, but what we have to defend against has outpaced our progress."<sup>178</sup>

## Avian Influenza: A Crisis in the Making?

On June 4–6, 2004, an international agricultural conference held in California drew speakers and participants from all over the world. Unknowingly, some presenters were ill from a strain of avian influenza (also called "bird flu") and, during the course of the proceedings, transmitted the virus to other attendees. Within days, the news media were issuing reports of a sudden flu outbreak that had infected large numbers of people and had even resulted in some deaths. Health departments across the state were ordered to open mass clinics as a means of delivering a newly developed avian flu vaccine to all residents.

We can all be thankful that this scary-sounding series of events never actually occurred. Rather, the Health Department of Yolo County, California, created this mock scenario for a flu vaccination drill that it carried out on June 10, 2004, in collaboration with other government agencies, the local Red Cross chapter, community health care institutions, and individual volunteers.<sup>179</sup> Drills such as this are one element, along with monitoring, scientific research,

and economic and policy forecasting, of an overall preparation strategy for a public health catastrophe that has yet to come, but one day might very well affect the lives and livelihoods of millions of Americans.

The possibility of an avian flu pandemic, an outbreak of global proportions, is salient today in large part because of the ongoing spread of the **H5N1 virus**. H5N1 is a particularly virulent strain of avian flu that, since 2003, has infected 856 people around the world, killing 452 of them.<sup>180</sup> As Table 6.3 indicates, none of the reported cases have occurred in the United States. Nor has the virus thus far been detected in domestic poultry stocks. These conditions, however, are potentially at risk of deteriorating rapidly, given the ease of international travel and the fact that H5N1 is continually being carried to far-off locations by migratory birds.<sup>181</sup>

For H5N1 to spawn a pandemic, the virus would have to evolve from its current form, in which it can readily spread from an infected bird to a person but not from one person directly to another. If the virus were to acquire this latter ability, the results could be catastrophic, as humans possess little natural immunity to such mutated strains of influenza. Extrapolating from past pandemics, the Department of Health and Human Services estimates that somewhere between 200,000 and 2 million Americans would lose their lives, with tens of millions more suffering nonfatal illnesses.<sup>182</sup> In addition to these staggering losses, H5N1 has the potential to cause severe economic dislocations, impacting activities and industries as diverse as “travel, trade, tourism, food, consumption and eventually, investment and financial markets.”<sup>183</sup>

Clearly, an **avian influenza pandemic** would provide public bureaucracies with a host of disaster management challenges. What is less certain is just when such an outbreak might occur, as well as whether H5N1 is in fact the strain most likely to mutate into a human virus. Indeed, in 2015–2016, **Zika**, a mosquito-borne virus that can be transmitted from person to person through sexual activity, traveled quickly from South America to the United States, infecting thousands and causing several deaths.<sup>184</sup> As one scientist summed up the uncertainty of the spread of H5N1, “There’s no sense of ‘imminence’ here. . . . The virus could move closer to human-to-human transmission, and it could move farther away.”<sup>185</sup>

When it comes to this disaster that has not yet happened, government officials thus find themselves in a difficult spot. On the one hand, if officials overestimate the likelihood of an H5N1 pandemic, they run the risk of misallocating valuable emergency preparedness resources, resources that could be utilized more effectively in getting ready for other prospective crises. In addition, by drawing extensive public attention to a crisis that does not in short order manifest itself, officials could unwittingly cast themselves in the role of Chicken Little, desensitizing citizens to dangers in public health and other important areas of collective concern. On the other hand, if the threat of an H5N1 outbreak is too steeply discounted, officials might find themselves woefully unprepared when poultry and people suddenly begin to exhibit symptoms in large numbers.

**Table 6.3 Confirmed Bird Flu Cases and Deaths**

<i>Country</i>	<i>Number of Cases</i>	<i>Number of Deaths</i>
Egypt	356	119
Indonesia	199	167
Vietnam	127	64
Cambodia	56	37
China	53	31
Thailand	25	17
Turkey	12	4
Azerbaijan	8	5
Bangladesh	8	1
Iraq	3	2
Pakistan	3	1
Laos	2	2
Canada	1	1
Djibouti	1	0
Myanmar	1	0
Nigeria	1	1
Total	856	452

*Source:* "Cumulative Number of Confirmed Human Cases of Avian Influenza A/ (H5N1) Reported to WHO," World Health Organization, [http://www.who.int/influenza/human\\_animal\\_interface/2016\\_10\\_03\\_tableH5N1.pdf?ua=1](http://www.who.int/influenza/human_animal_interface/2016_10_03_tableH5N1.pdf?ua=1) (accessed October 26, 2016).

### ***National Strategy for Pandemic Influenza***

More than a decade in the making, a national strategy for anticipating and responding to an influenza pandemic was announced by the Bush administration on November 1, 2005, and was followed, six months later, by the release of an accompanying **implementation plan**.<sup>186</sup> The strategy lays out three guiding principles—preparedness and communication, surveillance and detection, and response and containment. When it comes to implementing these laudable principles, the plan tasks the Department of Homeland Security with coordinating the overall federal effort, while placing the Department of Health and Human Services in charge of medical readiness and management. The primary responsibilities of the federal government are limited to working with international authorities; procuring and distributing vaccines and antiviral medications; modifying laws and regulations as needed; and offering guidance to states, localities, and other organizations. For their part, state and local governments are charged with managing both the medical and nonmedical impacts

of the avian flu within their jurisdictions over the many months an outbreak is projected to last. This arrangement means that the “center of gravity” before and during a pandemic will be located not in Washington, D.C., but in communities all around the country.<sup>187</sup>

After its release, a number of the plan’s features came under criticism. By fragmenting authority across agencies and failing to empower a single, national leader on matters of avian flu preparation and response, the plan runs the risk of producing, as former House Speaker Newt Gingrich has put it, little more than “confusion, finger-pointing and neglect.”<sup>188</sup> In addition, most state and local health departments are poorly equipped to carry out their designated responsibilities, such as instituting quarantines, delivering vaccines, and providing medical care to those who become sick.<sup>189</sup>

The private sector may also be an unreliable partner for the federal government. In the area of vaccines, domestic manufacturing capacities are rather limited, which would make it difficult for drug companies to bring a newly developed pandemic treatment to the market in short order.<sup>190</sup> To make matters worse, a dispute between the Bush administration and congressional Democrats resulted in the United States falling well behind other nations in stockpiling Tamiflu, an antiviral drug that is known to be efficacious when taken shortly after the onset of flu-like symptoms.<sup>191</sup> Despite these initial difficulties, by 2009 the federal government had procured 50 million courses of Tamiflu.<sup>192</sup> The accumulation of this stockpile, although certainly a welcome development, brought with it a new challenge for government decision makers, namely, the crafting of a strategy for safely disposing of millions of courses of Tamiflu that have gone unused and have reached their expiration dates.<sup>193</sup> In 2016, the Food and Drug Administration approved the first generic version of Tamiflu, with the expectation that other generics would soon compete for market share in the lucrative flu-fighting industry.<sup>194</sup>

The **National Strategy for Pandemic Influenza** was put to an unanticipated test when, in April 2009, the **H1N1 virus** was detected in the United States. H1N1 is a strain of swine flu that had never previously been identified in either animal stocks or human beings.<sup>195</sup> First observed in a ten-year-old living in California, H1N1 quickly spread across the country, eventually infecting an estimated 43 million to 89 million Americans.<sup>196</sup> According to the Centers for Disease Control and Prevention (CDC), as many as 20,000 deaths were ultimately attributable to the virus.<sup>197</sup>

Within two weeks of the initial case, the federal government declared a **public health emergency**.<sup>198</sup> Consistent with this statement and the national strategy’s implementation plan, the CDC began releasing stockpiled supplies of antiviral drugs and protective equipment such as masks, gloves, and gowns.<sup>199</sup> By the fall of 2009, President Obama ratcheted up the government’s response by declaring that the swine flu outbreak constituted a **national emergency**.<sup>200</sup> This additional declaration enabled state and local officials to establish special facilities, such as clinics located in school gymnasiums, for treating swine flu victims.<sup>201</sup> The national emergency declaration also facilitated the disbursement of swine flu vaccinations that had been approved after successful clinical trials. Initially, demand far outstripped supplies, resulting in criticisms that the

Obama administration was slow in delivering essential protections to vulnerable groups such as children and pregnant women. By December, however, tens of millions of doses had been administered and swine flu vaccinations were made available to the entire population.<sup>202</sup>

In calibrating its response to the swine flu outbreak, the Obama administration relied heavily on the national strategy that had been developed during the presidency of George W. Bush. As President Obama stated, “I think the Bush administration did a good job of creating the infrastructure so that we can respond.”<sup>203</sup> The president’s sentiment was echoed by House minority leader John Boehner, R-Ohio: “I have no complaints about how they’re proceeding.”<sup>204</sup>

Although such bipartisan praise and cooperation is reassuring, the national strategy has not yet been put to its most demanding test. An outbreak of H5N1 avian influenza would differ from the swine flu experience by orders of magnitude in its public health, economic, and social consequences. In what follows, the book’s four theoretical perspectives are utilized to assess the areas of preparation and response where bureaucratic success stories, as well as government failures, are most likely to be manifested in the event of an H5N1 outbreak.

### *Using the Theories to Forecast*

An avian flu pandemic would appear to be a case ripe for an application of the logic and lessons of bounded rationality. On the one hand, bureaucratic decision makers might very well know their preferences—to minimize the likelihood of an H5N1 pandemic and to contain illness, death, and harmful economic consequences were such a pandemic to occur. On the other hand, decision makers will likely find it extremely difficult to consider all or even most applicable prevention and response strategies, and will likely have an even harder time anticipating the outcomes that will follow from various policy choices. Satisficing, in other words, is more likely to be an apt descriptor of bureaucratic reasoning than is optimization.

As discussed in Chapter 2, satisficing has a lot to offer as a mode of decision making, in that it allows for quick actions that are often either close to right or right on target in their intended effects. Nevertheless, satisficing does at times lead to off-the-mark decisions and therefore has the potential to produce disastrous results when the stakes are extraordinarily high, as in the context of the H5N1 virus. With these possibilities in mind, what are some of the ways in which boundedly rational processes are being used in preparing for an avian flu pandemic?

One key element of bounded rationality is problem disaggregation, the breaking down of complex challenges into their component parts. Such disaggregation is evident throughout the national strategy. Not only does the plan, as highlighted earlier, call for three distinct conceptual focal points, it also disaggregates in terms of specific activities and functions. The plan lays out more than 300 actions that are to be taken or have already been implemented by the federal government. Examples of these actions include establishing surveillance capacity in at-risk countries, developing standards for the isolation and

quarantine of travelers, assembling vaccine stockpiles adequate to immunize millions of Americans, and providing guidance to law enforcement officials at the state and local levels.<sup>205</sup>

One advantage of problem disaggregation is that it opens the door for bureaucracies to conduct simulations and tests in areas of specific responsibility. The Yolo County Health Department focused its avian flu exercise on a handful of discrete tasks, including the delivery of mock vaccinations to several hundred volunteers within a short period of time.<sup>206</sup> The department did not concern itself at all with larger issues surrounding the development, manufacturing, and distribution of these vaccinations, duties that clearly fall outside its immediate domain. With such a narrow focus, the department was readily able to evaluate the lessons, both positive and negative, that were learned from the drill. On the positive side, participants gained confidence with respect to the roles they would be called upon to play in the event of an actual avian flu outbreak. Conversely, the department discovered that its incident command center did not operate very effectively and that its control measures were inadequate for containing the spread of the virus.<sup>207</sup>

No matter how laudable, the department's simulation may ultimately be irrelevant if avian flu vaccinations never make it to Yolo County. This failure is a distinct possibility because of the current state of the domestic vaccine industry. Pharmaceutical companies, which collectively constitute one of the most powerful organized interests in contemporary American politics, have shied away from increasing their vaccine manufacturing capacities, primarily because of their concerns about liability and profitability.<sup>208</sup> During the 2003–2004 flu season, one of these companies, Wyeth, exited the market rather than incurring the required costs of upgrading its facilities.<sup>209</sup> And manufacturing pandemic vaccines is even more economically challenging than bringing seasonal vaccines to market. Because of the population's lack of prior exposure to viruses such as H5N1, pandemic vaccines typically require multiple doses that are higher in content than seasonal vaccines.<sup>210</sup> It is no wonder, then, that only a handful of companies have contracts with the Department of Health and Human Services to produce pandemic vaccines.<sup>211</sup> In 2013, to address this deficiency, the Department of Health and Human Services awarded four pharmaceutical companies contracts totaling \$40 million to establish a manufacturing network capable of increasing influenza vaccine production by 20 percent.<sup>212</sup> In general, reluctance on the part of the pharmaceutical industry has led some public health experts to call for an abandonment of the existing private sector system in favor of a government-led initiative, modeled perhaps after the World War II-era Manhattan Project that produced the atomic bomb.<sup>213</sup> As highlighted in Chapter 4, it would take entrepreneurial behavior on the part of such experts, along with similarly inclined officeholders, to impose concentrated costs on the drug industry in order to deliver potential benefits to a diffuse set of millions of Americans.

Questions surrounding the division of responsibility between the federal government and other public and private entities can be considered through the lens of principal-agent theory. This approach is particularly relevant in the context of the delegation of policymaking and implementation authority to

state and local governments. In addition to Yolo County's successful avian flu simulation, governments in cities such as Seattle and New York have made significant progress in pandemic planning, and effective action that saved dozens of lives was taken during the H1N1 pandemic by state and local health departments in Ohio.<sup>214</sup> Despite these success stories, it is nevertheless the case that the vast majority of local health departments remain ill-prepared to exercise their delegated authority in a reasonable manner.<sup>215</sup> These collective shortcomings might well be viewed as manifestations of adverse selection, with a principal (the federal government) selecting agents (local health departments) that are generally not well suited for the tasks at hand.

As discussed in Chapter 3, a common solution to the problem of adverse selection is for principals to screen agents carefully before delegating responsibilities. Unfortunately, the federal government has little choice in the matter because local health departments face little, if any, competition in their areas of jurisdiction. What this lack of competition suggests is that agency loss, here visible through poor planning and response on the part of local health departments, will be inherently difficult for the federal government to mitigate in a serious way.

When it comes to networks, many interagency, intergovernmental, and public-private arrangements are reasonable candidates for theoretical scrutiny. Arguably, the most important network arises out of the allocation of pandemic flu authority across multiple agencies of the federal government. In addition to the aforementioned duties of the Department of Homeland Security and the Department of Health and Human Services, at least six other agencies—the Departments of Agriculture, Defense, Labor, State, Transportation, and the Treasury—have jurisdictional responsibilities enumerated in the implementation plan of the National Strategy for Pandemic Influenza.<sup>216</sup>

Although such a division of authority is natural in the face of a multidimensional threat like the H5N1 virus, it immediately raises difficulties regarding cross-agency coordination and the manner in which policy disagreements are aired and resolved. Cognizant of these difficulties, officials who drew up the plan placed the secretary of homeland security in charge of the federal government's overall response to an avian flu pandemic. These policymakers also established a process for dealing with issues that cannot be successfully addressed at the departmental level. This process involves two organizations located inside the Executive Office of the President—the Homeland Security Council and the National Security Council.<sup>217</sup>

On the surface, cabinet-level and White House attention to the most pressing and stubborn problems in the area of avian flu preparation and response would appear to be exactly what is needed. A closer look, however, reveals that the key officials and organizations involved have portfolios extending well beyond the H5N1 virus. The day-to-day war on terrorism consumes much of the time and energy of these policymakers, a fact that might well have the impact of diluting coordination and decisiveness when it comes to an avian flu pandemic. As noted in Chapter 5, without vigorous and sustained leadership, interagency networks are not likely to be especially effective in achieving their core tasks. One promising sign in this regard occurred a few years ago at

an H1N1 Influenza Preparedness Summit that was held by the federal government. One of the opening speakers at the summit was John Brennan, President Obama's homeland security adviser and the head of the Homeland Security Council.<sup>218</sup> Brennan's presence suggests that leadership resources may indeed be forthcoming during an avian influenza outbreak, resources that are vital in mobilizing the federal government's sprawling pandemic policymaking and implementation network. Similarly, in 2016, President Obama requested a congressional appropriation of \$1.9 billion to combat the Zika virus.<sup>219</sup> The fact that this request occurred shortly after the World Health Organization declared Zika to be a Public Health Emergency of International Concern was a sign of fast and decisive leadership at the top of the nation's public health network.

In sum, the possibility that the H5N1 virus might mutate into a strain of pandemic influenza presents public bureaucracies in the United States with a host of accountability and performance challenges. This public health crisis in the making would seem to call for an aggressive federal planning effort, much like previous bureaucratic initiatives that resulted in the detonation of the atomic bomb and other successful responses to prospective dangers. At the same time, an avian flu pandemic would be the ultimate localized disaster, with its effects being felt in neighborhoods, schools, and workplaces throughout the country.

As our theoretical consideration of the avian flu case has demonstrated, there have been bureaucratic success stories in terms of both coordinated action and independent preparations. Boundedly rational actors at the federal and local levels have utilized techniques of problem disaggregation and simulations as ways of beginning to understand the scope and complexity of the problem they may one day confront. Nevertheless, if an avian flu pandemic were to strike the United States sooner rather than later, it is almost certain that bureaucracies at all levels of government would quickly be overwhelmed. At first glance, this verdict may read like an indictment of the bureaucracy. It bears emphasizing, though, that institutions throughout government, civil society, and the economy would find themselves in much the same situation, responding to a crisis that naturally stretches organizational capacities like few other disasters the world has experienced.

## Evaluating Bureaucracy in Light of the Theories

At the outset, we noted that emergency situations pose greater challenges for public bureaucracies than do ordinary decisions made under routine circumstances. We also observed that the theoretical perspectives provide us with four vantage points from which to think systematically about the management of major disasters. Along the way, we have encountered examples of strong bureaucratic performance, as well as instances in which agencies have taken courses of action that leave much to be desired. We have also argued that some agency successes and failures emanate from pressures external to the bureaucracy, such as directives from political principals and claims raised by societal clients. Our final task, then, is to look for general patterns that come out of the experiences of Hurricane Katrina; the *Deepwater Horizon* oil spill; the September 11, 2001,