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Health System Reconstruction and Nation-Building

How important is the role of health in nation-building? To answer this question, a RAND team of political scientists, physicians, and economists examined past attempts to rebuild public health and health care delivery systems during nation-building efforts after U.S. military deployments intended to underpin the transition to peace, democracy, and economic stability. Their main conclusion: Nation-building efforts cannot be successful unless adequate attention is paid to the population's health. In addition, efforts to improve health can be a powerful tool for capturing the goodwill of the residents.

Defining and Measuring Success in Nation-Building

To identify important lessons for future operations, the RAND team conducted seven case studies of efforts over the past 60 years to rebuild health systems after U.S. military deployments:

- Germany and Japan after World War II
- Somalia, Haiti, and Kosovo in the 1990s
- Afghanistan and Iraq after September 2001.

To provide a framework for measuring success, the team divided nation-building into the five phases shown in Figure 1. The three end points represent possible health outcomes after major reconstruction efforts have ended: *failure* (a decline in key public health and health care delivery indicators over the course of reconstruction); *little change*; or *success* (improvement in health indicators compared with both pre-conflict and immediate post-conflict levels).

Key findings:

- Nation-building efforts cannot succeed unless adequate attention is paid to the population's health.
- Efforts to improve residents' health can generate goodwill.
- Successful health system reconstruction requires planning, coordination, and leadership.
- Health reconstruction is linked to other sectors, such as water and power.
- Health-sector reform must be sustainable by the country's own health care providers and leaders.
- Security is essential for all reconstruction, including health.

The analysts defined *success* as improved conditions for water, sanitation, food, and nutrition; and lower rates of infectious diseases and mortality. The team also considered whether the nation-building efforts established a sustainable health infrastructure and an appropriate public health system.

A major challenge in conducting this study was finding reliable data to permit comparison across all countries. The RAND team used a hybrid of qualitative and quantitative analyses. In this approach, a country's improvement in

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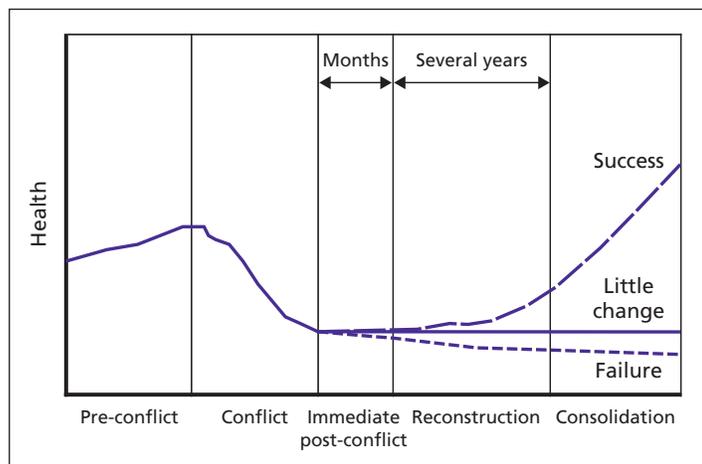
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This Highlight summarizes RAND Health research reported in the following publication:

Seth G. Jones, Lee H. Hilborne, C. Ross Anthony, Lois M. Davis, Federico Girosi, Cheryl Benard, Rachel M. Swanger, Anita Datar Garten, and Anga Timilsina, *Securing Health: Lessons from Nation-Building Missions*, Santa Monica, Calif.: RAND Corporation, MG-321-RC, 2006. Available at www.rand.org/pubs/monographs/MG321/.

Figure 1
Five Phases of Nation-Building in Relation to Health

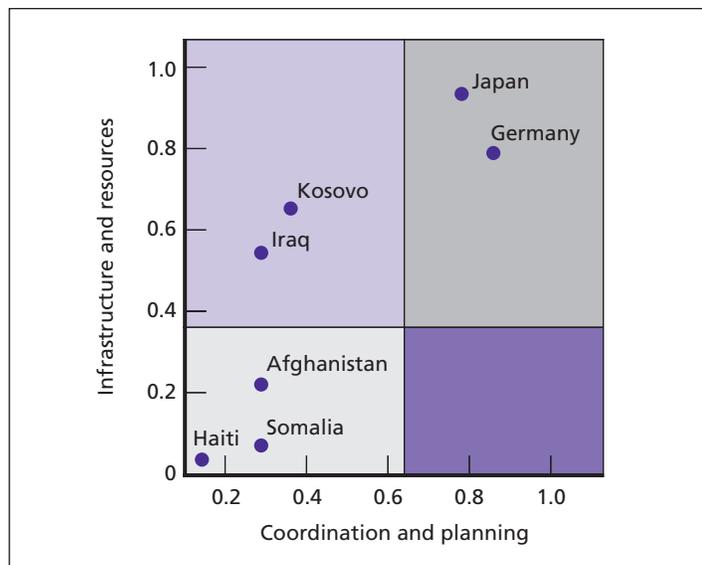


health can be represented by two core factors of a successful health reconstruction effort: *infrastructure and resources* and *coordination and planning*.

These factors can be used to plot the success of nation-building efforts in the seven countries examined (see Figure 2). The countries cluster into three quadrants:

- *Germany* and *Japan* are the most successful. Immediately after their respective conflicts ended, these countries had a damaged but still-functioning infrastructure. Reconstruction efforts were not hampered by a lack of security. In addition, reconstruction efforts were well planned and effectively implemented.

Figure 2
Success of Health System Reconstruction in Countries RAND Examined



- *Kosovo* and *Iraq* are mixed cases. They began the health reconstruction effort with a damaged but operational infrastructure. But efforts to repair the infrastructure were plagued by inadequate security. In addition, reconstruction was poorly planned and coordinated.
- *Haiti*, *Somalia*, and *Afghanistan* are the least successful. Their infrastructure was either poor before the conflict or severely damaged by it. Overall coordination and planning efforts were also inadequate, the health status of the population was poor, health system functioning was inferior, and security was insufficient to support the nation-building effort.

Below, we highlight an example from each quadrant, focusing on the five phases of nation-building.

A Success Story: Japan

Pre-conflict infrastructure. Before World War II, Japan had an efficient government structure and a public health and health care delivery infrastructure based on German models, regarded as Europe’s most advanced at the time. However, the system provided only rudimentary care to most of the population.

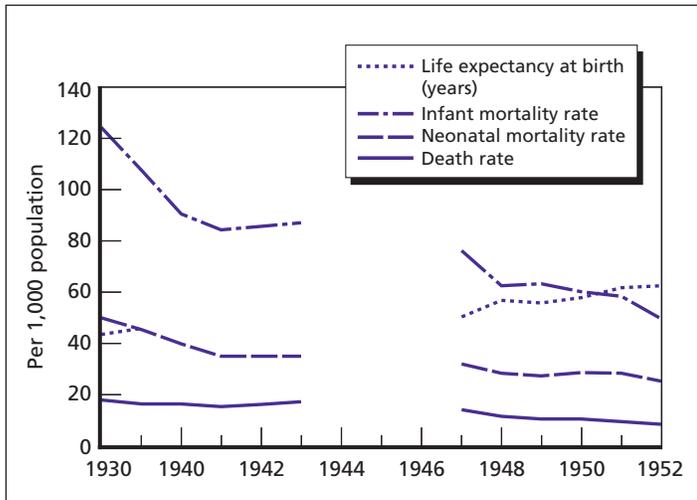
Immediate post-conflict. In 1945, Japan’s public health and health care delivery infrastructure lay in ruins. Housing, sewage systems, water plants, and equipment had been damaged extensively. The Japanese population suffered from widespread malnutrition. The atomic bombing posed unique physical and psychological challenges. Health resources were dramatically reduced.

Reconstruction. The effort to rebuild Japan’s health infrastructure and public health system was successful. It was led by Colonel Crawford F. Sams, a career army doctor with extensive experience in public health and disease control. Sams provided capable, steady leadership throughout the occupation. He introduced modern methods of disease prevention and launched a public-education program to raise awareness of hygiene and sanitation. He reorganized the hospital system and reformed medical education. He successfully introduced powdered skim milk into the diets of school children, substantially increasing their protein and calcium intake. This relatively inexpensive initiative improved the health of millions of school children and created reservoirs of goodwill toward Americans for decades thereafter.

Sams was aided in his task by a secure environment. There was no armed resistance to the U.S occupation, enabling Sams and his staff to tackle not only immediate concerns but also systemwide reforms.

Consolidation. Japan was able to consolidate and maintain the improvements made during the reconstruction phase. The infant mortality rate, neonatal mortality rate, and death rate all fell, and life expectancy at birth grew substantially, largely

Figure 3
Improvement in Japanese Health Status



as a result of improved nutrition and sanitation, as well as reactivated vaccination programs (see Figure 3). The number and quality of health care personnel also increased.

Sams’s goal was “democratization by demonstration.” He successfully argued that U.S. investments in the health of Japanese citizens did more than perhaps any other single action to prove that the United States was committed to building a vibrant, functioning democracy out of a former enemy state. In so arguing, Sams linked health system reconstruction to the larger goals of the occupation.

Mixed Success in Health System Reconstruction: Iraq

Pre-conflict infrastructure (1991, after the first Gulf War). In the mid-1980s, Iraq had one of the most effective and modern health systems in the Arab world. But immediately after the first Gulf War, the population’s health declined. Health, sanitation, and water infrastructures had been severely damaged in the conflict. Public health expenditures were drastically cut, and health indicators, such as infant mortality, which had improved steadily since 1960, deteriorated rapidly.

The incidence of infectious diseases, such as cholera, typhoid, dysentery, and hepatitis, also increased sharply. A combination of interrupted vaccination programs and massive refugee movements increased the incidence of vaccine-preventable diseases, such as measles and whooping cough. A food-rationing program probably averted a famine, but malnutrition became a serious problem, with children and pregnant women most at risk.

Immediate post-conflict. In March 2003, the United States invaded Iraq to remove Saddam Hussein from power. RAND examined U.S., coalition, and Iraqi attempts to rebuild the health sector from May 2003, when President Bush declared

combat operations completed, to December 2005. These efforts cannot be properly assessed because the data are preliminary, and information about basic health indicators is often not available. However, the emerging picture suggests that the deteriorating security environment detrimentally affected reconstruction efforts in all sectors, including health.

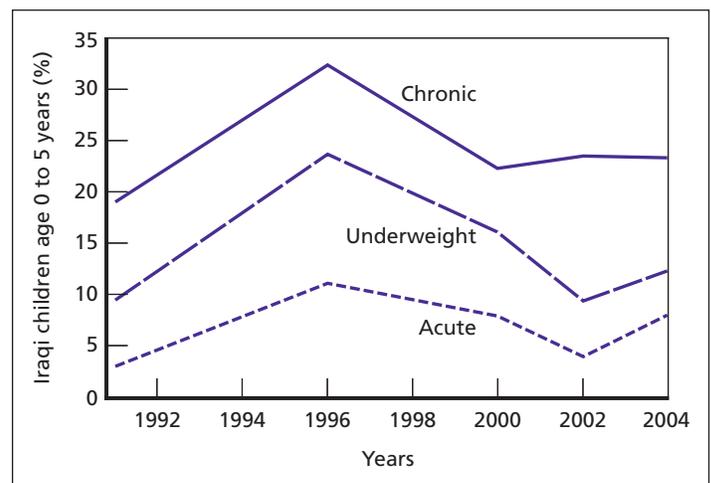
Reconstruction. The effects of inadequate security on health system reconstruction have been pervasive. Inadequate security has hindered progress in rebuilding water plants and hospitals, slowed immunization campaigns, exposed the health care labor force to intimidation and kidnapping, and kept patients from receiving care. Hospitals and physicians specifically have been targeted by insurgents. Consequently, many physicians and other health care workers have left the country, depleting it of necessary manpower.

Health is also tightly linked to the water, sanitation, and electricity sectors, so progress in all of these sectors must occur in parallel. For example, a rebuilt hospital is of little use if electricity and water supply are not reliable. This interaction between health and other sectors makes it misleading to measure success in health system reconstruction with just one factor, such as the number of health care facilities reopened.

Chronic malnutrition, especially among women and children, remains a serious problem in Iraq. The prevalence of malnutrition among children (see Figure 4) is particularly worrying, since experts believe that it leads to cognitive deficits and disease in adulthood.

How extensively can poor security affect efforts to reconstruct the health sector? One way to calibrate its effect is to examine the relationship of security to a specific measure of reconstruction success. RAND conducted such an analysis. As a measure of success, the team used the percentage change

Figure 4
Malnutrition in Children Remains a Serious Problem in Iraq

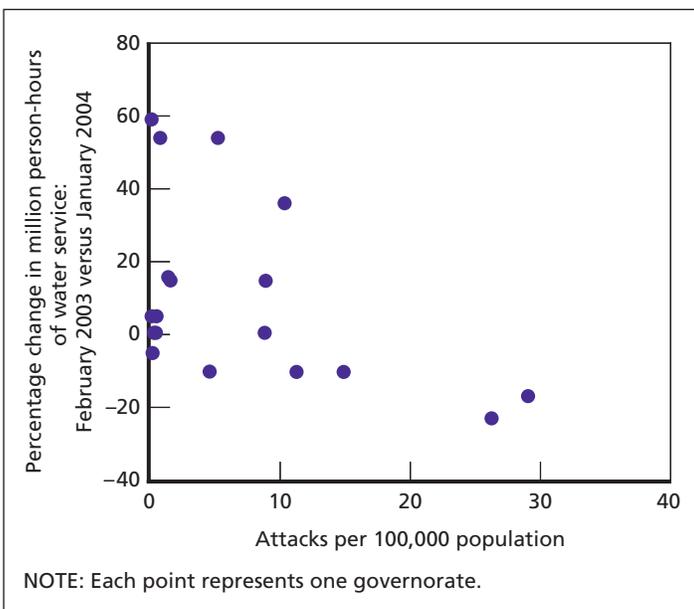


in the number of million person-hours of access to water from the pre-conflict period to January 2004. The analysts plotted this measure against the number of attacks per 100,000 of the population in the 18 Iraqi governorates (see Figure 5). RAND found that success was nearly 5 times higher in governorates with higher security rates.

Health reconstruction in Iraq also suffered from the lack of a lead actor to coordinate planning and funding. There was little coordination among the nongovernmental organizations (NGOs) in the country, and almost none between the NGOs and the Coalition Provisional Authority. The important successes in the health sector—no epidemics and no starvation—occurred because international organizations, NGOs, and the U.S. Agency for International Development (USAID) developed contingency plans in the event of armed conflict and prepositioned supplies in Iraq and in neighboring countries.

Consolidation. Iraq has been unable to systematically integrate and sustain gains from health reconstruction. Most hospitals and clinics are operating but are in poor condition. Violence persists, and hospitals and doctors continue to be targets. Shortages in essential medication and equipment continue. Many nurses cannot go to work or fear to do so; many physicians were abducted or murdered, or have emigrated. Poor security has terminated or continues to hamper efforts of NGOs and UN agencies, and it has caused policy-makers to shift funding from health to security. There is some evidence that poor health conditions—especially poor sanitation—have contributed to anti-Americanism and support for the insurgency. In short, early encouraging signs have been replaced by a rapidly deteriorating situation.

Figure 5
Poor Security Has Hindered Reconstruction in Iraq



Failure in Health System Reconstruction: Afghanistan

Pre-conflict infrastructure. Afghanistan is one of the world's most underdeveloped countries. Reliable health data are extremely limited. However, the information available puts Afghanistan at or near the bottom of every socioeconomic indicator used to measure human and economic progress. The country's fragmentary health care system has been dependent on external support since the 1950s, and the country has few health care professionals.

Immediate post-conflict. After the September 11, 2001, terrorist attacks, the United States, with support from indigenous allies, overthrew the Taliban regime in Afghanistan. RAND examined U.S., coalition, and Afghan efforts to rebuild Afghanistan's health sector from December 2001 through December 2005. Even more so than for Iraq, RAND's assessment is preliminary because dependable data are lacking and the time frame is short.

Reconstruction. The international community geared up for a short-term effort to rebuild Afghanistan. But it faced a long-term development challenge to build a country shattered by three decades of civil war. The population suffered from widespread malnutrition and poverty, and rates of infant mortality and infectious disease were high. Most of the population lacked safe water and modern sanitation.

Progress might have been quicker if the approach had been more sensitive to the nature of the crisis and Afghanistan's particular situation. For example, international organizations devoted significant resources to emergency food operations to avert a crisis. However, many experts believe that predictions of famine were initially incorrect or exaggerated. Afghanistan had a chronic food shortage but was not on the brink of famine, and emergency food operations diverted resources from alternatives, such as security.

Health system reconstruction was slow in starting: Not until the third year was there a rapid expansion of health services to rural areas. In addition, agencies underestimated the degree of operational difficulty.

Available resources were also inadequate. A joint-donor mission in April 2002 outlined a basic health services package. However, there was a large gap between the \$87.4 million required and the \$42.9 million available.

As with Iraq, health system reconstruction suffered from poor planning and coordination. International organizations and NGOs did not effectively communicate or coordinate with each other or with the Afghan agencies that, theoretically, were in control. Even within single agencies, defects in oversight, information, and evaluation were common. For example, the Government Accountability Office (GAO) found that USAID's program in Afghanistan lacked measurable goals and specific resource levels, did not delineate

responsibilities, and contained no plans for program evaluation. The GAO also criticized poor collaboration and information sharing among agencies.

Consolidation. The main health challenges in Afghanistan are not amenable to quick fixes. The country is in a complex political emergency of long duration, characterized by institutional collapse, deep social cleavages, and the absence of normal accountability mechanisms, such as an independent legal system, because there is no legitimate government. The country has never really had a health infrastructure, and the health system remains overwhelmingly dependent on NGOs, which are primarily responsible for health care delivery. The country lacks health care leadership, competency, and capacity.

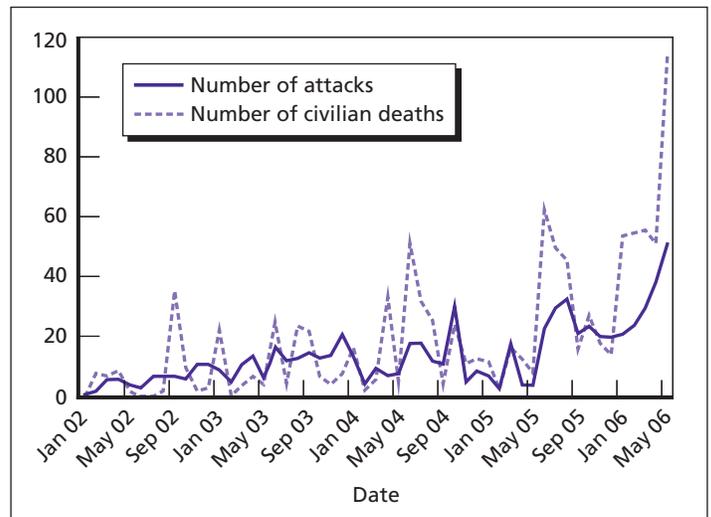
Security remains an ongoing concern, affecting the ability of international organizations and NGOs to conduct their health care programs and forcing them to scale back, suspend, or cancel operations. Continued flare-ups of violence, coupled with insufficiently consolidated central power and the proliferation of opium cultivation and drug trafficking, have hampered Afghanistan's nation-building efforts in all sectors, including health. And violence appears to be increasing (see Figure 6).

Lessons for Future Nation-Building Operations

Several important lessons emerge from these case studies:

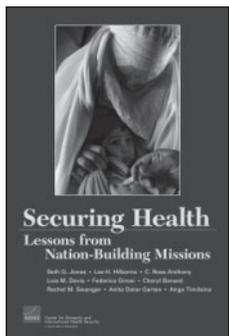
- *Health can have a significant independent effect in nation-building efforts, helping to "win hearts and minds."* In Japan, powdered skim milk improved the health of millions of school children and created reservoirs of goodwill toward Americans. In Iraq, failure to improve health conditions for the general population may have generated support for the insurgency.
- *Successful health system reconstruction includes effective planning, coordination, and leadership.* Health reconstruc-

Figure 6
Violence in Afghanistan Is Increasing



tion in Iraq has suffered from the lack of a lead actor, thus potentially duplicating efforts or wasting resources.

- *Health reform is linked to other sectors, such as power, transportation, and governance.* Measures of success should focus on outcomes, such as improvements in basic health indicators—for example, lower infant mortality—rather than on outputs, such as number of rebuilt hospitals or the number of doctors and nurses trained.
- *Health-sector reform needs to be sustainable, with responsibility passed to the country's health care providers and leaders.* Countries such as Afghanistan that have weak national health capacities may never reach the point of sustainability.
- *Security is essential for all reconstruction, including health.* Poor security in Iraq and Afghanistan continues to hamper reconstruction efforts. ■



This Highlight summarizes RAND Health research reported in Seth G. Jones, Lee H. Hilborne, C. Ross Anthony, Lois M. Davis, Federico Girosi, Cheryl Benard, Rachel M. Swanger, Anita Datar Garten, and Anga Timilsina, *Securing Health: Lessons from Nation-Building Missions*, Santa Monica, Calif.: RAND Corporation, MG-321-RC, 2006. Available at www.rand.org/pubs/monographs/MG321/. Abstracts of all RAND Health publications and full text of many research documents can be found on the RAND Health Web site at www.rand.org/health. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.

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