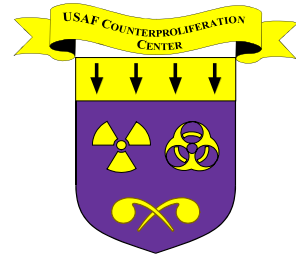


USAF COUNTERPROLIFERATION CENTER

CPC OUTREACH JOURNAL

*Air University
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Washington Post
June 1, 2000
Pg. 1

U.S. Set To Share Missile-Defense Research

By Charles Babington, Washington Post Staff Writer

QUELUZ, Portugal, May 31 -- President Clinton tried today to reassure European allies on a proposed U.S. missile defense program, saying the United States would share the technology with friendly, "civilized" countries if it decides to build such a system.

The idea of a missile defense system has sparked controversy both domestically and abroad. Many U.S. allies and Russia are highly skeptical of the proposal, partly because they fear it could lead to a new arms race and otherwise jeopardize their security. Supporters say the United States needs such a system to guard against potential attacks from hostile countries, such as North Korea and Iraq.

"I don't think that we could ever advance the notion that we have this technology designed to protect us against a new threat, a threat which is also a threat to other civilized nations who might or might not have nuclear powers . . .

and not make it available to them," Clinton said at a news conference outside an 18th-century palace in this Lisbon suburb, where a U.S.-European Union economic summit was underway. "I think it would be unethical not to do so." The president's comments came eight days after Republican presidential candidate George W. Bush called for installation of a more extensive missile defense system than the Clinton administration is considering. Bush said that as president he would provide protection not only for the United States, but also for many of its allies. Clinton spoke today only of sharing technology, not of extending a U.S. protective umbrella over other countries.

While Clinton said that sharing such technology has "always been my position," White House aides said they could find no record of his making such comments publicly. Clinton is scheduled to decide later this year whether to authorize construction of the system, whose cost is estimated at up to \$60 billion on top of development spending. It was not clear from Clinton's comments whether he would include Russia among the nations sharing in the technology. "We've done a lot of information-sharing with the Russians," he said. "We have offered to do more, and we would continue to."

White House spokesman Joe Lockhart, pressed on whether the technology would be shared with Russia, declined to answer definitively. "Much of this is premature, based on a decision [about a missile defense system] that has not been made," he told reporters.

Russian President Vladimir Putin, who will host Clinton this weekend at the Kremlin, objects to an expanded missile defense system as a violation of the 1972 Anti-Ballistic Missile Treaty. Clinton agrees that it would violate the treaty, but he is hoping the Russians will agree to modify the accord to allow a limited defense system.

Putin has warned that if the United States abrogates the treaty and builds the system over Russian objections, Russia will withdraw from other arms control accords and halt cooperative efforts to prevent proliferation of nuclear weapons and missile technology.

The United States has spent more than \$60 billion on research and development of anti-missile technology since President Ronald Reagan launched his Strategic Defensive Initiative, or "Star Wars" program, which was aimed at building a space-based defense shield. Both Reagan and President George Bush expressed a theoretical willingness to share the technology with Russia at some point.

In addition to discussing missile defense in Moscow, Clinton hopes to secure a deal with Putin that would require Russia and the United States each to destroy 34 tons of nuclear weapons-grade plutonium.

Before leaving Portugal Thursday for a stop in Berlin, he will meet with Israeli Prime Minister Ehud Barak to discuss peace efforts with the Palestinians and Syrians. Today, Clinton said that Barak's "daring" decision last week to dismantle Israel's buffer zone in southern Lebanon and withdraw its troops after 22 years "heightens the tension" in the Middle East and should impose "on all the parties a greater sense of urgency, because things are up in the air again." He said the withdrawal "increases the overall price of not reaching an agreement fairly soon."

Clinton also spoke by phone today with Palestinian leader Yasser Arafat, White House officials said. Lockhart said Clinton told Arafat -- as he will tell Barak Thursday -- that the sides are "at a very important part of the [peace] process . . . trying to formulate a way to move forward." Barak had planned to meet with Clinton earlier this month in Washington but canceled the visit after violence erupted between Palestinians and Israeli troops in the West Bank and Gaza Strip.

Clinton was joined at today's news conference by Portuguese Prime Minister Antonio Guterres and European Commission President Romano Prodi, who had participated in the closed-door trade talks with European leaders earlier in the day.

While the mood at the news conference was upbeat, White House aides said Clinton made no progress on winning European concessions on four simmering disputes: the EU's refusal to import hormone-treated U.S. beef; EU policies that make it hard for U.S. companies to sell bananas to Europe; European subsidies of Airbus, an aircraft manufacturer that competes with Boeing Co.; and a World Trade Organization decision against the United States for subsidizing a variety of exports.

Deadly slow

CASH cuts and a lack of clean disposal technology look likely to prevent Russia and the US from keeping promises to destroy their chemical weapons.

Countries signed up to the Chemical Weapons Convention are meant to destroy their chemical weapons arsenals by 29 April 2007. But officials from Russia and the US told delegates in The Hague that they will not make the deadline. Russia simply hasn't enough cash for the task, says Valery Semin of the Russian foreign ministry. Money

has become even tighter since the US stopped funding Russia's chemical weapons destruction programme last year after Russia failed to fund its share of the work.

http://www.newscientist.com/news/news_224126.html

Pulling down a deadly Soviet legacy

By Dana Lewis

NBC NEWS CORRESPONDENT

STEPNAGORSK, Kazakhstan — When Kazakhstan was part of the Soviet Union, thousands of elite scientists lived in this small city working in what can best be described as a factory of death — a massive biological weapons facility that U.S. spy satellites somehow missed. The Soviet Union has fallen and Stepnagorsk is now abandoned, but the threat it poses to the world has barely diminished.

<http://www.msnbc.com/news/407687.asp>

Washington Post

June 2, 2000

Pg. 23

U.S. Called Unprepared For Bioterrorist Attack

Doctors, not the military or police, will have to protect the public after a bioterrorist attack, but no hospital in the nation is prepared, an expert said yesterday.

Anthrax bacteria released in a small shopping mall could cause a crisis requiring 2,600 intensive-care beds, a number "not available anywhere in the country," said Michael Osterholm, a physician who runs the Infection Control Advisory Network and frequently advises the government on public health issues.

The government has only a few million doses of smallpox vaccine on hand, and at best enough antibiotics stockpiled for 5 million anthrax treatments, Osterholm said at an American Medical Association briefing.

Worse, he said, if doctors detected a contagious outbreak, such as smallpox, in most states they wouldn't have the authority to quarantine a patient without a court order, allowing a sick person to spread disease to others.

New York Times

June 5, 2000

Pg. 1

Clinton And Putin Fail To Close Gap On Missile Barrier

By Elaine Sciolino

MOSCOW, June 4 -- President Clinton and President Vladimir V. Putin of Russia concluded two days of talks today with mutual praise, but without narrowing the differences over the national missile defense system the United States wants to build.

The summit meeting did produce two other narrow but significant agreements. One was an undertaking by the United States and Russia each to destroy 34 metric tons (about 75,000 pounds) of weapons-grade plutonium, enough to make tens of thousands of nuclear weapons. The other called for a joint center in Moscow to share early warnings about missile launches, a center that would be the first permanent American-Russian military operation.

Overall, senior administration officials described the atmosphere between the lame-duck American president and the new Russian president as correct and businesslike, though not necessarily warm. That was evident at their news conference.

Although the two presidents shook hands as they entered the hall, and Mr. Clinton gently nudged Mr. Putin to pose with him for the cameras afterward, they did not look or smile at each other during their opening statements or while answering questions.

The two men had met twice before, in 1999 when Mr. Putin was prime minister, but this was their first meeting since the Russian was elected president in March. And although they had a range of issues on their agenda -- including Russia's struggle to reform its economy and its unresolved war in Chechnya -- arms control dominated their talks.

Seeking to temper expectations, senior administration officials had said before the trip that there would not be a substantial breakthrough on the contentious question of a national missile defense.

But Mr. Clinton is committed to decide before the end of his administration whether to move forward with a limited missile defense system against the possibility that a "rogue state" like North Korea might develop a missile able to reach the United States. Russia says the project would undermine the Antiballistic Missile Treaty of 1972, a cornerstone of strategic arms controls, and unleash a new arms race. The proposed American system is also opposed by China, and the European allies have expressed concern.

Mr. Putin evidently felt no urgency to change his position.

He made that clear during the news conference, which was held in the grand, gilt-trimmed St. George's Hall in the recently renovated czarist-era Grand Palace of the Kremlin. While acknowledging that there was "a commonality" in foreseeing the possibility of unspecified new threats, Mr. Putin said, "We're against having a cure which is worse than the disease."

The two sides agreed to a joint statement pledging to continue talks on further cuts in strategic nuclear weapons and terming the ABM treaty the "cornerstone" of global strategic security. The statement called on experts from both sides to prepare a joint report on how to tackle new threats to strategic stability.

But briefing reporters after the press conference, Deputy Secretary of State Strobe Talbott stressed that Mr. Putin had not softened his position.

"President Putin made absolutely clear to President Clinton that Russia continues to oppose the changes to the ABM treaty that the United States has proposed since last September," Mr. Talbott said. He said Russia believed that the missile defense plan "will undermine strategic stability, threaten Russia's strategic deterrent and provoke a new arms race."

At the news conference, Mr. Putin insisted that he was willing to continue working on the issue, if necessary, with the next American president. "We know that today, in the United States, there is a campaign ongoing," he said, adding that he was familiar with the programs of the two main candidates. "No matter who gets to be president, we're willing to go forward."

Though Mr. Clinton has only eight more months in office, that in itself does not necessarily preclude progress on arms control or United States-Russian relations. President Reagan spent a large part of 1988, his last year in office, pressing for improvements in Washington's relations with Moscow and pushing arms control agreements. And just two weeks before Mr. Clinton's inauguration, President Bush signed the Start II treaty, calling for the most significant rollback yet in the formidable nuclear arsenal of the cold war.

Officials said that during their eight hours of talks over two days, Mr. Putin spoke some English, and each leader displayed a readiness to hear the other out. But the exchanges lacked the first-name familiarity that characterized the relationship between Mr. Clinton and Boris N. Yeltsin, the former president, where it was always "Boris" and "Bill." One American in the delegation said of Mr. Putin: "You can see he is not a warm person; he's a cold fish. People say he's a control freak." But the official pointed out that on arms control issues, that may not be bad.

Asked how they would describe each other's personalities and leadership styles, Mr. Putin said of Mr. Clinton, "He's a very experienced politician."

"In my mind, we've established now not only good business ties, but also personal relations," he said. "For me, President Clinton is a person who is a very comfortable and pleasant partner in negotiations."

"I think that if everyone behaves the way President Clinton has behaved, not trying to find dead ends and problems, but to seek ways of moving ahead, I think between us in the future our relations really will be successful."

Mr. Clinton was even more formal in his assessment of Mr. Putin, saying: "If you want to know what my personal assessment is, I think he is fully capable of building a prosperous and strong Russia while preserving freedom, pluralism and the rule of law. It's a big challenge. I think he's fully capable of doing it."

In the summit meeting, the men came to agreement on the two secondary but nonetheless important issues: the disposal of some 34 tons of plutonium that could be used to make warheads, and a joint military center that would help both countries avoid an accidental missile launch.

And Mr. Clinton raised other areas of contention besides missile defense. He urged Mr. Putin to seek a political settlement to end Russia's eight-month-long military offensive against rebels in Chechnya and to allow international monitors to investigate charges of human rights violations in the region.

And he called on the Russian leader to protect the rights of a free press. Earlier this spring, Mr. Putin ordered an armed raid on Media-MOST, a major communications company that had been critical of the Kremlin. The invasion was officially described as a tax raid.

Mr. Clinton underscored his message by giving an interview to Echo Moskvyy, a radio station owned by Media-MOST.

The joint Kremlin news conference was also an occasion to announce the agreements that had been reached. The two presidents sat at a long gilt-trimmed white table with two sets of pens as an overpowering, disembodied voice filled the vast 40-foot-ceilinged hall relating in both Russian and English each of the agreements and statements.

The voice was so powerful that Mr. Clinton and several members of his delegation -- including the national security adviser, Samuel R. Berger; Secretary of State Madeleine K. Albright, and Energy Secretary Bill Richardson -- could not stop themselves from smiling. Mr. Putin did not smile.

Mr. Clinton also indulged in a bit of sightseeing, visiting the imposing new Christ the Savior Cathedral on the Moscow River embankment near the Kremlin.

Washington Times

June 3, 2000

Pg. 1

Algeria Advances Nuclear Program

Capability worries Arabs, Europeans

By Andrew Borowiec, The Washington Times

TUNIS, Tunisia - Reports that neighboring Algeria is moving toward acquiring nuclear capability have alarmed Arab capitals and prompted urgent inquiries from several European governments.

At stake is the stability of the southern shores of the Mediterranean and the lack of preparedness of NATO to deal with what appears to be a proliferation of countries capable of producing nuclear weapons.

According to Arab diplomatic reports, Algeria's nuclear program has already exceeded the country's power requirements, particularly considering its vast supplies of natural gas.

China is said to have been the main supplier of nuclear technology to Algeria, a former French colony now in the throes of a relentless terror war waged by hard-line Islamic fundamentalists.

Persistent reports that Algeria will soon be able to produce plutonium of a quality used for nuclear weapons have particularly upset pro-Western North African countries, such as Tunisia and Morocco.

Both have kept militant Islam at bay and Tunisia has virtually eliminated its threat through a series of reforms backed by a ubiquitous security apparatus.

In recent months, Algeria has been trying to project an image of a country entering "an era of peace and prosperity" following a civil war that has claimed at least 100,000 lives. Nonetheless, terrorist attacks have continued.

Algeria has survived economically mainly due to a substantial income from oil and natural-gas revenues. Much of that income has been used by the military.

At the same time, Algerian President Abdelaziz Bouteflika has been busy promoting peace among various Arab and African countries. His latest efforts included mediation in the conflict between Ethiopia and Eritrea.

Although Mr. Bouteflika has vowed to revamp the administrative system, eliminate widespread corruption and "lift Algeria from ashes," there are no indications that the badly needed social and economic reforms are in the offing.

Speculation about Algeria's nuclear capability centers mainly on a nuclear-reactor complex known as Es Salam south of Algiers. The facility is expected to begin functioning later this year and its possible scope has alarmed Algeria's neighbors.

Algeria is a signatory to the nuclear Non-Proliferation Treaty (NPT), but Arab diplomats claim that it has concealed some of its nuclear material from international inspectors.

Among such undisclosed items, according to Arab sources, were enriched uranium and heavy water, both used in the production of nuclear weapons.

Arab diplomats point out that the Algerian armed forces, although preoccupied with combating Islamic guerrillas, have an array of "delivery vehicles" capable of carrying nuclear weapons.

Algeria also has vast areas of the Sahara in which nuclear testing could be easily conducted. The French first tested their nuclear capability around Colomb Bechar in the western part of the desert.

Diplomats point out that given the vast space and infrastructure left by the French, Algeria could also become a testing site by other Third World countries seeking a nuclear deterrent of their own.

Chicago Tribune

June 3, 2000

Anthrax Attacks

By Charles L. Cragin, Acting Undersecretary of Defense

WASHINGTON -- The threat of an anthrax attack against our military forces is well-documented and very real--and the vaccine is very necessary. Peter Gorn's article "Protest grows against use of anthrax vaccine" (News, May 17) does a disservice to service members if it results in them being unprotected from the deadly threat of anthrax.

Today, at least 10 countries, including Iraq and North Korea, now have--or are attempting to acquire or produce--deadly chemical and biological weapons.

Within the realm of biological warfare, anthrax remains the weapon of choice. For those who inhale anthrax but have not been vaccinated or treated, death is the ultimate and predictable outcome. For the unvaccinated, the onset of clinical symptoms means that most will die. The FDA-approved anthrax vaccine provides our men and women in uniform with their best chance of survival.

The Department of Defense continues to rely on and work closely with external medical and scientific experts who help to actively guide the current program. The Institute of Medicine concludes that published studies have reported no significant adverse effects of the vaccine. IOM also strongly encourages-- and the department wholeheartedly endorses--stronger studies. IOM has agreed to undertake such a study.

Let's focus on facts. The fact is that this vaccine is as safe as other commonly used vaccines. Like other vaccines, it may result in localized reactions, such as soreness or itching at the injection site, and a very small number (less than one-tenth of a percent) may experience more serious reactions. The fact is that some people oppose this vaccination, or any vaccination. And, the fact is that some who oppose our anthrax protection effort sometimes exaggerate the legitimate concerns. When this happens, it is our citizens in uniform who lose out, who risk their lives if exposed to anthrax while unprotected.

We have an obligation to give our men and women in uniform the best protection available from all major threats.

Anthrax is one of the most deadly threats our people face; and the vaccine offers safe and effective protection.

Washington Post

June 6, 2000

Pg. 1

As Arms Cuts Stall, U.S., Russia Are At A Crossroads

By David Hoffman, Washington Post Foreign Service

MOSCOW, June 5 -- The summit meeting between President Clinton and Russian President Vladimir Putin, which ended today, starkly demonstrated how reducing nuclear arsenals -- an overriding goal in two decades of Cold War confrontation -- has fallen from grace.

Clinton, in the twilight of his term, said that any cuts in long-range nuclear weapons would have to be coupled with resolving the stubborn dispute over missile defenses. It was the latest in a long series of roadblocks to further

progress toward reducing strategic weapons. Clinton may be the first U.S. president in a quarter century to leave office without signing a major nuclear arms reduction treaty.

With Russia wounded, ailing and struggling to maintain its global status, and the United States feeling economically robust and militarily superior, Clinton and Putin appeared to be talking past each other.

"Both sides hoped for some kind of miracle, which did not happen," said analyst Valery Solovei of the Gorbachev Foundation. "They talked to each other but didn't hear what the other side is saying."

"I think that the problem is that nobody really knows how to go on with arms control," said Ivan Safranchuk, an analyst at the PIR Center, a think tank dealing with nuclear weapons and proliferation issues. "In the past, everything was two super-huge arsenals. No one could doubt that these were much bigger than anyone could need in a conflict. And it was relatively easy to reduce the surplus. You reduce 5,000; we reduce 5,000. Both parties do not need those thousands."

"Now it is very different," he said. "We will not have more than 1,500 warheads, more likely 1,000 deployed. The Americans can, without any problem, remain at 5,000 or 6,000 deployed. . . . There is no parity in our positions, there is no equality in technical, economic, financial and all other capabilities. The logic of the disarmament process must change -- but it remains the same."

Before Clinton came to Moscow for the fifth and last time, there was speculation about a "grand bargain" in which the United States would trade off new, deeper cuts in nuclear weapons sought by Russia in exchange for Moscow's acquiescence to a limited national missile defense plan being considered by Clinton.

What actually occurred at the summit seems to have not been a bargain, but a stall.

The critical moment came in the elegant St. George's Hall of the Kremlin when a Russian journalist asked Clinton a straightforward question: What was his view of a Russian proposal to slash nuclear warheads to 1,500 on each side as part of a future third Strategic Arms Reduction Treaty (START III)?

Previously, the levels projected by Clinton and former president Boris Yeltsin for this treaty were 2,000 to 2,500 warheads each. The Pentagon does not want to go lower. But economic problems probably will force Russia to fall well below 1,000 warheads.

In response, Clinton showed little enthusiasm for the "grand bargain" and seemed uninterested in endorsing the lower levels without first resolving the missile defense issue.

He said that lower levels "would require us to change our strategic plan," without saying whether he would consider it.

Then he said that "we believe it would be much better, if we were going to do that, if we could also know that we were defending ourselves against a new threat, which we believe is real. . . . I am eager to go below START II, but also want to try to solve the new threat, as well," he said.

Slashing nuclear arsenals deeper than START II has been an ostensible goal of both the United States and Russia since the treaty was signed in January 1993. But the cuts have been repeatedly put off by delays in ratification by the U.S. Senate and the Russian State Duma. In Russia, the delays were spurred by anger over NATO expansion, the bombing of Iraq and the Kosovo attack. Although the Duma finally ratified it in April, START II has still not entered into force because the U.S. Senate has held up key protocols.

Now, the summit has made clear there is a new bump in the road -- the U.S.-Russian dispute over missile defenses and the 1972 Anti-Ballistic Missile Treaty.

At the summit, "neither side was ready for what we would call real accomplishment," said Pavel Podvig, an analyst at the Center for Arms Control, Energy and Environmental Studies here. "To begin with, the United States wasn't really serious about this 'grand bargain' type of thing." Clinton's answer to the question about 1,500 warheads "shows that the United States wasn't really interested."

But, Podvig added, "Russia wasn't too pushy." In fact, in his remarks at the news conference, Putin did not make a single appeal for Russia's demand for lower levels of strategic weapons.

"We didn't really play this card," Podvig said. "Russia wasn't sending all those signals about being really interested in deeper cuts -- 1,500 warheads or something like that."

Putin's performance has puzzled some analysts. The Russian government had been stoutly resisting any changes in the 1972 ABM treaty, but then Putin acknowledged, in the joint statement with Clinton, that there might be changes. Likewise, the Russian military has been broadcasting an unwavering message for months that the threats of missile attack from hostile states was exaggerated. Then, at the summit, Putin shifted and acknowledged such threats may exist.

Finally, after Russian officials had held out for months against missile defenses, Putin seemed to join in supporting them. First, he suggested a joint U.S.-Russia theater defense system, which, while not precisely defined by him, would be on a smaller scale than the concept being considered by Clinton. The Putin proposal was brushed aside Sunday by Clinton, who said the necessary technology would take too long to develop.

Then, on a visit to Italy today, Putin picked up an idea advanced earlier by several Russian lawmakers and called for setting up "an anti-ballistic missile defense system for Europe."

Safranchuk suggested that Russia may, too, be stalling for time.

"There is a lot of hope here in Moscow that the Americans will change their mind and forget about national missile defense as too costly and nonefficient," he said. Meanwhile, "it is very good for Russia," he added. "We can maneuver for a good compromise. It is too early to make a deal with Clinton. It is not clear whether his successor will be Gore or Bush, but it doesn't make any sense right now to help Clinton."

Dallas Morning News

June 4, 2000

Scientists Fear Smallpox Could Be Deadly Weapon In The Wrong Hands

By Ed Timms, The Dallas Morning News

It might be a nightmare waiting to happen - or not even a threat.

Smallpox is a killer. Many millions have died from the highly contagious virus. Survivors often were left cruelly scarred or blinded.

It was the target of a remarkable eradication program. The last naturally occurring case was reported in 1977.

Officially, it exists only inside two laboratories - one in the United States, and the other in Russia.

But what if other supplies of the virus exist, perhaps in the hands of rogue nations or terrorists? What happens if the virus is released on a battlefield to infect U.S. forces? Or by terrorists in a U.S. city?

Such fears are more than conjecture. Intelligence indicates that some countries with little affection for the United States, including Iraq and North Korea, maintain secret supplies of the smallpox virus. Some scientists believe that samples of smallpox may still be sitting in laboratory freezers, especially in developing countries, awaiting discovery by would-be terrorists.

Americans typically have not been vaccinated for smallpox since the early 1970s.

Because of the potential threat, the U.S. military and civilian health agencies are working to develop a safer smallpox vaccine with fewer side-effects, as well as antiviral drugs for treatment. Efforts also are under way to stretch an existing stock of smallpox vaccine.

"The smallpox issue is a good example of the very challenging choices that policymakers face in this arena," said Michael L. Moodie, president of the Chemical and Biological Arms Control Institute, a non-partisan think tank.

"In terms of inherent potential and vulnerability, smallpox goes to the top of the list. But it's supposed to be eradicated. There is great uncertainty about what the situation may be... And that leads to questions about what is a prudent investment in dealing with it."

Dr. Peter Jahrling, a senior research scientist with the U.S. Army Medical Research Institute of Infectious Diseases, said the threat of smallpox is very real.

"I've said to my colleagues in the intelligence community... to the extent you can divulge information without revealing sources and methods, it's in your best interests to let the general public know what you know," Dr. Jahrling said. "So they understand that this threat isn't a mirage that somebody's cooked up in the back room."

There is some precedent for the use of smallpox as a biological weapon, although it's a bit dated. During the French and Indian War, in the mid-1700s, blankets used by smallpox patients were provided to hostile tribes.

And during the Revolutionary War, George Washington suspected that the British tried to spread smallpox among his troops. He once ordered new recruits to be inoculated to protect them against the virus.

Few experts dispute that smallpox could wreak havoc if released into a largely unvaccinated population today. With the world's major population centers just hours apart by air, an exposure in one country could quickly develop into a global pandemic.

That potential, however, might also constrain its use.

"It doesn't seem to be a rational weapon," said Dr. Jonathan B. Tucker, who served on a United Nations biological weapons inspection team in Iraq. "It is a Doomsday weapon because it is so contagious."

A rogue nation that unleashes smallpox against an enemy force risks exposing its own troops and civilians. And if the virus spreads into other countries that are either neutral, or allies, the reaction isn't likely to be positive. Still, smallpox could be seen as a weapon of deterrence that makes a more powerful nation or coalition think twice about taking military action against an international pariah.

There are also difficulties in creating, maintaining and delivering biological weapons, but the end of the Cold War may well have created a brain pool of scientists, formerly employed by the Soviet Union's biological weapons program, for countries interested in developing their own arsenal.

Dr. Tucker, who researches biological and chemical weapons at the Monterrey Institute of International Studies' Center for Nonproliferation Studies, believes it would be prudent to develop a reserve stockpile of smallpox vaccine as an insurance policy "in the very unlikely event that terrorists or a military attack ever involved smallpox."

Some experts say that having the ability to "ramp up" production of the vaccine - just in case - also is a reasonable precaution.

Vaccinating service members who are deployed in parts of the world where there is an assessed threat probably would make sense, Dr. Tucker said, "but that's probably a small fraction of all deployed troops."

For the present, there are no plans to immunize the nation's military force against smallpox "except for very special individual cases," Dr. Jahrling said.

Terrorists also may be reluctant to unleash smallpox.

"Politically speaking, a lot of these terrorist groups eventually want to become legitimized," said Dr. Raymond Zilinskas, who also is on the staff of the Monterrey center and participated in two U.N. inspections of Iraqi biological research and production facilities. "...So if they use smallpox or any kind of contagious agent, and cause a lot of uncontrolled damage, that would probably kill their political chances. And it also would kill their supporters." To unleash smallpox - a virus that was eradicated with enormous effort and expense - would "truly be a crime against a humanity," Dr. Tucker said.

Use of smallpox as a biological weapon, Mr. Moodie said, might be a classic example of a "low probability, high consequence event."

Some military experts suggest that inoculating service members against smallpox may only prompt adversaries to choose another letter from the alphabet soup of microbes that potentially can be used as biological weapons. And the list is very long. Among them: Q-Fever, tularemia, Venezuelan Equine Encephalitis, Ricin, Ebola-Zaire virus, Marburg virus, Rift Valley fever - and, perhaps, genetically altered microbes.

Eugene J. Carroll Jr., deputy director of the Center for Defense Information in Washington, suggests that protecting against every biological threat would take "an infinite number of needles, an infinite number of vaccines."

But all microbes are not created equal. Developing defenses against the most effective biological weapons, some scientists argue, still is a worthwhile endeavor. It may force rogue nations to resort to a virus or bacteria that is more difficult to use as a biological weapon and not as lethal. And developing some types of biological weapons may be beyond the technological or scientific capability of such nations.

From the military's standpoint, the never-ending give and take of developing countermeasures to new threats goes with the job.

On the homefront, the Army and Air National Guard has been called upon to staff 27 "Weapons of Mass Destruction Civil Support Teams" throughout the United States. They will respond to acts of chemical or biological terrorism aimed against the nation's civilian population.

And the Defense Department already is administering an anthrax vaccine to its service members. That program was announced by Secretary of Defense William Cohen in 1997. Anthrax, a naturally occurring bacteria, is relatively easy to produce and is extremely lethal. Anthrax and smallpox are widely viewed as the most likely candidates for use in a terrorist attack or as a biological weapon against a U.S. military force.

Controversy over the military's anthrax vaccine illustrates another issue that civilian and military leaders face.

Concerned over its safety, more than 300 service members have refused the vaccine. Others, not willing to risk their careers, have taken the vaccine but also complained to members of Congress.

Earlier this year, 35 House members called the military's anthrax vaccination effort a "flawed policy" and urged Mr. Cohen to suspend it until an improved vaccine is available.

Federal officials have asserted that the vaccine is safe, but that has not placated critics. Other vaccines may face similar challenges.

It may well be impossible to create vaccinations to counter every biological weapon - or convince people to take them all. One alternative is to quickly detect and identify biological weapons, and develop a treatment.

That capability is still beyond reach. But Mr. Moodie, a former assistant director of the U.S. Arms Control and Disarmament Agency, said it is a top priority.

"The problem is the range of possibilities," Mr. Moodie said. "You can't say it's infinite, but it certainly goes beyond the 'dirty dozen' or so ... agents that have been the traditional focus of attention."

GAO Report

Weapons of Mass Destruction

DOD's Actions to Combat Weapons Use Should Be More Integrated and Focused

<http://www.gao.gov/new.items/ns00097.pdf>