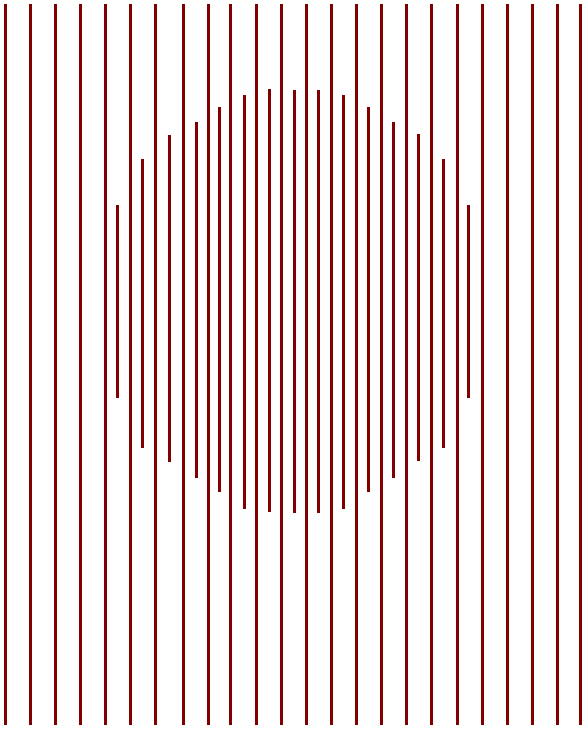
CBO PAPERS

EASING THE BURDEN: RESTRUCTURING AND CONSOLIDATING DEFENSE SUPPORT ACTIVITIES

July 1994



CONGRESSIONAL BUDGET OFFICE

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CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515

NOTES

Numbers in text and tables may not add to totals because of rounding.

Unless otherwise noted, all years are fiscal years.

Savings and costs for the 1995-1999 period are expressed in current dollars, unless otherwise noted. Long-term costs are expressed in 1995 dollars.

Savings are compared with the Administration's fiscal year 1995 plan.

PREFACE

Restructuring roles and missions in the Department of Defense (DoD) has been a recurring theme in Congressional debate on the defense budget. It seems likely to remain in the forefront of debate at least through next year, when a recently established commission on DoD's roles, missions, and functions is scheduled to report its findings to the Congress.

This paper--the second half of a two-part analysis of DoD's roles, missions, and functions--considers the pivotal issue of restructuring or consolidating support activities. The analysis, prepared by the Congressional Budget Office (CBO) at the request of the Committee on the Budget of the United States Senate, considers restructuring six functional support areas. In keeping with CBO's mandate to provide objective, nonpartisan analysis, the paper makes no recommendations.

This discussion of restructuring support functions incorporates contributions by a number of analysts in CBO's National Security Division. Lane Pierrot coordinated the effort, under the general direction of Neil M. Singer and R. William Thomas, and prepared the Summary and Chapter I. Chapter II examines personnel support activities: Ellen Breslin Davidson wrote the section on medical care, and Deborah Clay-Mendez prepared the discussion of family housing. Chapter III looks at equipment support activities, with a section on consolidating acquisition management by Wayne Glass and another on depot maintenance by Rachel Schmidt. Michael O'Hanlon prepared Chapter IV on reorganizing intelligence activities. Amy Belasco wrote the discussion of consolidating primary flight training in Chapter V, with contributions from Lane Pierrot. Lisa Siegel, Amy Plapp, and Elizabeth Chambers of CBO's Budget Analysis Division analyzed the cost implications of the alternatives considered. James L. Blum, Frances Lussier, Michael A. Miller, and William P. Myers made useful suggestions during review. Geoff Cohen and Sheila Roquitte assisted analysts during preparation of the paper, and Nathan Stacy helped review it for accuracy.

Paul L. Houts edited the paper, with assistance from Christian Spoor, and Cynthia Cleveland prepared it for publication.

Robert D. Reischauer
Director

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SUMMARY

In 1948, leaders of a victorious United States met in Key West, Florida, to mold the defense establishment of a nation whose role in the world was fundamentally changed. Today, this country again confronts the uncertainties of victory, as the end of the Cold War presents both opportunities and challenges. Anticipation of a peace dividend has left the defense community with the challenge of decreasing spending. Many observers believe the defense budget will continue to decline. But military leaders often argue that the United States still faces substantial--though uncertain--threats. As a result, many defense experts have expressed concerns that forces--now a third to a half of their size of a few years ago--should not be cut further.

THE ROLES AND MISSIONS DEBATE

Some Members of Congress, including Senator Sam Nunn, the Chairman of the Senate Armed Services Committee, have suggested that the end of the Cold War offers the opportunity for restructuring. Using the term "roles and missions," in a speech in 1992, Senator Nunn laid out a vision for a restructured defense establishment that would place America's interests before service or agency concerns. The issue of reorganization remains of interest to the Congress. Just last year, the authorizing committees set up an independent commission to review the Department of Defense's (DoD's) roles and missions. That commission had its first meeting last May and will report on its findings next spring.

Interest in reviewing roles and missions springs in part from the notion that the organization of a defense establishment that confronts post-Cold War threats should differ from that of the Cold War establishment. But at the heart of the debate is the belief that DoD must do more with less and that it can do so most easily if it consolidates some of its functions and restructures or eliminates others. The debate has often focused on eliminating areas of overlap. Many areas of suggested overlap involve combat missions. Thus, an issue characteristic of the debate might be eliminating the overlap between Air Force and Army provision of air support to engaged ground forces. (For a discussion of consolidating combat missions, see "Options for Reconfiguring Service Roles and Missions," a CBO paper published in March 1994.) But restructuring support activities will also be an important part of this debate, since they make up about half of the DoD budget.

Over the next five years, the Administration's projected budget may provide roughly enough funds for DoD's program, but the number of potential problem areas suggests that funds will be tight at best. The Administration itself has acknowledged shortages of about $20 billion over the 1995-1999 period, and its plans do not include enough funding for future pay raises as large as those that DoD military and civilian personnel seem likely to receive. Potential also exists for increases in funding for weapons and for environmental cleanup. Moreover, recent press reports suggest that the Administration is expressing concerns about its ability to close bases as fast as the current plan would envision. Although deferring base closures could save money in the short run, since closures require up-front funding, it will add to costs in the long term, when CBO's analysis has suggested that funding could be even tighter. But even without these added pressures, DoD could be short $12 billion to $25 billion annually over the 2000-2010 period if it receives no real increases above the 1999 level in the Administration's current plan.

Barriers to Change

DoD may be able to realize savings to solve budget problems without major reorganization. In many cases, savings would result from eliminating excess capacity or cutting functions that are no longer needed. If the Administration and the Congress chose to make them, most of these cuts could take place within the current organizational framework.

But institutional barriers to intraservice streamlining could prove insurmountable. The military branches may keep functions in-house--even at the risk of continuing inefficiencies--because they receive more responsive services or services that are tailor-made for the functions they control. Incentives to streamline may be lacking, since gains from increased efficiency are more likely to result in overall budget reductions than increased funding for other programs. Also, the services may fear streamlining with its risk of reducing the bureaucratic scope of their organizations. Thus, a restructuring of responsibilities may be helpful to break down barriers. An independent agency structured along functional lines often may be freer to choose between competing suppliers of services.

Political barriers to major restructuring exist, of course. Both the Administration and the Congress have political concerns that may preclude choosing the most efficient path. And the services will object to losing control of functions. These concerns may prove to be more important in the

pluralistic U.S. political structure than the benefits of efficiencies to the economy as a whole.

Focusing on Support

Despite the difficulties inherent in making major changes, DoD will need to consider restructuring. Moreover, it may focus on support functions, since support represents such a large portion of the budget. Support functions and infrastructure must also feature prominently in any roles and missions debate, since DoD is anxious to avoid further sharp reductions in combat forces and to preserve their readiness.

What is infrastructure? The staff of the commission on roles and missions provided a rough division of DoD's budget that would allocate to infrastructure any resources not found in a major program that funds forces. According to this definition, funding for support makes up roughly half of the defense budget, totaling about $125 billion in 1994 and the same amount in 1995. Even broader definitions of support could be used. The Administration's Bottom-Up Review estimated that infrastructure spending in 1994 totaled $160 billion, thus including about $35 billion found in force programs.

Other trends also argue for restructuring support functions. Support functions might merge to conform with combat functions that are melded. Even if combat functions remain discrete, advantages may accrue from consolidating support functions since defense strategy now seems to place more emphasis on joint warfighting. Restructuring might also be considered if competitive industries in the private sector perform functions now done by DoD. Changes in the geopolitical environment may also have altered the need for some support activities.

Characteristics of Candidates for Consolidation or Restructuring

Several characteristics may make some infrastructure functions better candidates for consolidation or restructuring than others. Functions that might be amenable to consolidation or restructuring include those that:

- Involve tasks or activities common to more than one service;
- Have significant excess capacity;

- Maintain common equipment or offer opportunities for savings from buying or developing common systems;
- Support combat activities where missions are shifting; and
- Support joint combat activities.

Support functions that might be restructured include those that:

- Are not uniquely military or have competitive industries performing them in the private sector;
- Are not closely tied to warfighting capabilities, though unique to DoD; and
- Meet requirements that are undergoing significant change.

SOME EXAMPLES OF CONSOLIDATION OR RESTRUCTURING

A number of support functions may meet these criteria. The Congressional Budget Office (CBO) has analyzed examples of consolidation or restructuring in several areas: services to DoD personnel, weapons purchases and maintenance, intelligence, and training. Only four of the options CBO analyzed seem likely to offer significant savings in the near term. One alternative might actually add to costs initially because the up-front costs associated with reorganization or base closings swamp operating savings. Over the long term, however, the alternatives should reduce the burden DoD carries for supporting its forces.

Services to DoD Personnel

DoD provides a number of services to its personnel and their dependents. CBO examined options in two of these areas: medical care and family housing. The medical care option would improve the cost-effectiveness of the military health care system by adopting staffing patterns similar to those of civilian health maintenance organizations (HMOs), a task that would possibly be made easier by consolidating funding responsibility at the DoD-wide level. The family housing option discusses ways to restructure funding for housing so that DoD would have incentives to rely on the private sector for housing

when that approach is in fact the most cost-effective way to provide a high quality of life for military families.

Military Medical Care. DoD currently has four separate organizations with both fiscal and management authority over the Military Health Services System (MHSS): the Assistant Secretary of Defense for Health Affairs and the Surgeons General of the Army, Navy, and Air Force. In spite of that divided structure, the Assistant Secretary is responsible for ensuring that the department effectively carries out its medical mission.

DoD will have a total physician end strength of about 13,000 in 1995, almost three times the projected wartime requirement of about 5,000 active-duty physicians. Since peacetime medical care requirements now largely drive the size and structure of DoD's medical establishment, the department has been placing more emphasis on developing ways to provide peacetime care in a cost-effective manner. It is implementing several initiatives to accomplish this goal in its Tricare program, including a new management structure and a revised system of reimbursing providers of health care. But CBO's analysis suggests that adopting HMO staffing patterns at the military facilities--a goal that Tricare may not be able to accomplish--might enable DoD to reduce its physician end strength by almost 11 percent more in 1995. Reducing the number of physicians by about 1,500--in addition to the cuts the Administration already plans--could save about $400 million over the 1995-1999 period, and about $100 million annually once reductions are fully phased in (see Summary Table).

Consolidating control of all the medical resources that are now controlled by the Assistant Secretary of Defense for Health Affairs and the services under a single manager might allow for more effective management of the MHSS, and it might provide DoD the leverage needed to adopt HMO staffing patterns. CBO's option would place all funding for the Defense Health Program to support the MHSS--including all resources for military medical personnel, now controlled by the services--under a single manager: the Assistant Secretary. He or she would be responsible for developing a unified budget for the MHSS and allocating resources to the services based on those budgetary plans.

A single manager for medical functions would improve coordination throughout the Military Health Services System. Interservice trade-offs--and those between military and civilian care--might be easier for the Assistant Secretary to make. A single medical manager might also enable DoD to adopt more efficient staffing standards at the military treatment facilities based on the experience of civilian HMOs.

Reducing the number of physicians might not be without its disadvantages, however. Having fewer military physicians would mean that beneficiaries would have less access to military medical care, which would require different practice patterns by military physicians if long lines for beneficiaries are to be avoided. Furthermore, an influx of military beneficiaries to the system could make the situation worse for current beneficiaries. If those problems materialized, they would probably increase costs for the civilian

SUMMARY TABLE. COSTS AND SAVINGS FROM OPTIONS (In billions of dollars)

Option	1995	1996	1997	1998	1999	1995-1999	Long-Term Steady-State Annual Savings[a]
Adopt HMO Staffing Patterns	b	0.1	0.1	0.1	0.1	0.4	0.1
Increase Incentives for Privatization of Family Housing							
Revolving fund	0.3	0.5	0.5	0.5	0.6	2.3	0.5
Single housing appropriation	0	0	0	0	0	0	0.5
Consolidate Acquisition Work Force	0	b	0.4	0.9	1.5	2.8	2.1
Consolidate Depot Maintenance	0	-0.4	-0.4	b	0.3	-0.5	0.4
Restructure Intelligence Community	0	0	0	b	b	b	1.0
Consolidate Undergraduate Pilot Training	0.1	0.2	0.3	0.4	0.6	1.6	0.2

SOURCE: Congressional Budget Office.

NOTES: Minus signs indicate costs. Figures in 1995-1999 period in current dollars. HMO = health maintenance organization.

a. In 1995 dollars.

b. Less than $50 million.

portion of care that beneficiaries receive under DoD's Civilian Health and Medical Program of the Uniformed Services (CHAMPUS).

In view of those risks to beneficiaries, this option conservatively estimates the reductions in the number of physicians by assuming that all care that beneficiaries receive from DoD is provided at the military treatment facilities. In effect, that assumption leads to ignoring any care provided under CHAMPUS, which could have permitted an even larger reduction in the number of physicians needed to staff the military treatment facilities.

Family Housing. Family housing benefits are another important element in the compensation package that DoD provides its military personnel. About one-third of the military families in the United States live on-base in DoD housing; the other two-thirds receive cash housing allowances that they use to help defray the cost of obtaining housing in civilian communities. Although the current organization for military medical care results in overlap between military departments, DoD's role in providing on-base family housing may overlap with the role of the private-sector housing industry.

CBO's analysis of family housing presents several options that--by consolidating responsibilities for on-base family housing with those for cash allowances--might encourage the department to rely more on private-sector housing. A reduced DoD role could offer significant savings, since the federal government spends 25 percent more on average to provide DoD housing units than what military members choose to pay when they obtain housing in the private sector.

One of these options would involve creating a revolving fund for DoD housing. DoD would pay cash housing allowances to all military families living in the United States; families living in DoD housing would then pay their base housing office a rent equal to their allowance. The rents (allowances) would be used to pay operating costs and to make contributions to a sinking fund that, subject to Congressional authorizations, would finance housing investment. In one version of this approach, the revolving fund would be required to pay the Treasury an annual interest charge for units constructed after the fund was initiated. This requirement would ensure that fund managers only invested in units whose value covered both the construction cost and the time value of money to the government.

Provided that DoD relied only on the fund for housing investment (that is, no supplemental funds were appropriated for the construction of housing), a revolving fund with interest charges could ensure that over the long run the average cost of DoD housing did not exceed the cost of housing allowances.

A revolving fund without supplemental appropriations would save about $300 million in 1995 and about $2.3 billion over the 1995-1999 period. Over the long run, such a revolving fund would save about $500 million annually, as DoD reduced its housing stock and shifted to a more efficient mix of cash and in-kind compensation.

The greatest disadvantage of this alternative stems from the risk that separate appropriations for housing construction might be continued. If such appropriations were made, a revolving fund for family housing could easily result in a greater DoD role in family housing and increased costs. By CBO estimates, DoD's budgets could grow by about $400 million in 1995 and as much as $1.8 billion over the 1995-1999 period. Costs could continue to be higher over the long run, perhaps by about $400 million per year.

A second option would be to establish a single appropriation for family housing benefits. Under this approach, all federal funds currently spent on DoD housing benefits for military families (including family housing operations, family housing investment, and housing allowances) would be consolidated into a single appropriation. DoD and the Congress would review the appropriation annually based on the average amount requested for family housing benefits for each military family in the United States and overseas. Congressional authorization would still be required for investment projects.

Since a single appropriation would free DoD to shift funds to the most cost-effective method of providing housing, the department might be expected to invest in family housing only if the value of the investment to service members over its life cycle exceeded the cost of the unit to DoD. Previous CBO analyses suggest that over the long run the costs the federal government incurs in providing DoD housing exceed the value of that housing to service members. Thus, DoD's role in providing on-base housing would probably decline under this alternative in which DoD managers would have an incentive to choose the most cost-effective form of compensation.

Under the assumptions of this alternative, the immediate savings from a more efficient use of resources would go to benefit service members (through increased resources devoted to housing allowances) rather than to reduce the DoD budget. Over the long run, however, the benefits from DoD's use of a more cost-effective mix of cash compensation and in-kind benefits would accrue to taxpayers. In the long run, savings might again equal about $500 million annually.

Sizable political and institutional barriers, though, stand in the way of such an option. It would require a Congressional appropriation process that

focuses on the average cost per military family, which in turn would require some reallocation of responsibilities within the Congress. The same subcommittees would have to be responsible for both allowances and family housing. Moreover, responsibilities within DoD would need to be similarly realigned.

Support for DoD's Weapon Systems

DoD maintains sizable stocks of sophisticated weapons to provide its military with a qualitative advantage over potential opponents. Thousands of people in each of the services and several defense agencies are engaged in developing and buying new weapons. Maintenance personnel perform daily and periodic maintenance on these weapons. CBO's analysis discusses consolidating portions of these acquisition and maintenance work forces.

Consolidating the Acquisition Work Force. Ten major organizations and a number of small components in various defense agencies make up the defense acquisition work force. About 450,000 military and civilian workers in DoD conduct and manage the process of developing and producing weapons, equipment, and supplies. The size of the acquisition work force--about 23 percent smaller today than it was in 1988--has declined more gradually than has its work load, according to a number of measures. Acquisition funding declined by about 28 percent over the same period. Quantities of major weapons bought are also sharply lower than in recent years. For example, the Administration's budget this year requested about 125 aircraft, compared with more than 500 authorized in 1990. Ship procurement is a third of 1990 levels, and quantities of strategic missiles requested about a tenth. The number of programs in the acquisition development pipeline is down by about 30 percent.

Perhaps responding to duplication in the organizations providing acquisition services, or to the sluggish effect of reductions on the acquisition work force, several Members of Congress have proposed that acquisition functions be consolidated or streamlined. In fact, the Congress recently passed the Federal Acquisition Streamlining Act of 1994 aimed at streamlining the total federal acquisition process. The act will result in some cuts to the size of the DoD work force. A proposed, though defeated, amendment to that bill offered by Senator William Roth would have lowered the number of acquisition management personnel positions by 25 percent to 30 percent by reducing duplicative headquarters staffs.

CBO's analysis considers an option that goes beyond current legislation to streamline the acquisition process by consolidating these activities into a single agency. Consolidating all defense acquisition functions could promote savings and efficiencies by creating a management structure that is more conducive to cross-service purchasing of weapons and equipment than current practices that often result in each service developing its own systems. A single agency could also achieve a variety of management efficiencies: administrative and support functions could be consolidated and cut back, contracting support and oversight could be centralized, and management information systems could be revamped to meet uniform needs.

Consolidating acquisition functions, however, has its risks. The near-term costs of reorganizing could be significant. Such costs would come at a time when budgets are severely constrained by the need for reducing the deficit. Further, consolidation could create, at least initially, a new layer of bureaucracy to oversee the process that could delay savings and efficiencies. Finally, many of the advantages of an acquisition agency might be realized simply by eliminating the redundancy of military functions among services so that the acquisition work force could be reduced in ways other than through reorganization.

Consolidating Weapons Maintenance. Today, the military services operate 34 major facilities that perform about 70 percent of DoD's annual $15 billion bill for depot repairs and related maintenance. Although 10 facilities are scheduled to close as a result of previous base realignment and closure (BRAC) decisions, reductions in the numbers of U.S. forces and in the tempos at which they operate will still leave considerable excess capacity at the remaining public depots. The magnitude of this excess capacity may be even larger than current estimates if the Administration succeeds in carrying out its policy of redefining a "core" set of maintenance capabilities and then awarding a greater share of maintenance contracts to the private sector.

Public depots are dedicated primarily to a single service, and with the possible exception of fixed-wing aircraft, the Administration plans to let each service continue to operate its separate depots. But mindful of the need to maintain equipment more cost-effectively, in recent years the Office of the Secretary of Defense (OSD) has directed the services to perform more of each other's repairs when they involve common equipment. OSD also established an interservice management structure, the Defense Depot Maintenance Council chaired by the Deputy Under Secretary of Defense for Logistics, to coordinate this effort. But given that the share of work loads performed by one service for another remains small and the services remain reluctant to rely on each other's facilities for repairs, a centralized depot

management structure could make intraservice and interservice depot consolidations more likely.

In a 1993 report, the Joint Chiefs of Staff proposed one option for centralization: establish a joint depot maintenance command. A joint command or, alternatively, a civilian depot agency could take a DoD-wide perspective in managing existing facilities, assigning similar work loads to specific depots, and making recommendations to the BRAC commissions about which facilities to close. Since service depot personnel might be assigned to work together in a common facility or at least collaborate more extensively at separate facilities, a centralized management structure might make it more likely that the services will learn from each other's experiences in maintaining similar equipment. And a DoD-wide perspective might also result in better choices about how maintenance resources should be allocated. By encouraging more collaboration on similar work loads, a centralized management might also gain a better sense of the readiness and reliability of each service's weapon systems.

Under this option, assigning maintenance work loads among the services would allow DoD to close seven depots--three aviation facilities, two ground equipment depots, and two naval shipyards--in addition to those closures planned under previous BRAC decisions. Calculations based on one measure of capacity and future work load suggest that the greatest opportunity for consolidation among service facilities lies in fixed-wing aviation: work on aircraft and their components could be consolidated among six depots rather than the seven that might remain if, instead, the Navy and Air Force were to reduce their capacity individually.

The costs associated with this option would outweigh its benefits by about $500 million (in current-dollar budget authority) over the 1995-1999 period. This shortfall is the result of up-front costs associated with moving equipment, retiring and separating personnel from the work force, and performing environmental cleanup at depot sites. But by early in the next decade, DoD would save an average of about $400 million per year in budget authority, or a total of about $2 billion over the 2000-2004 period (in 1995 dollars). Other estimates have suggested that DoD could save from $350 million to $700 million per year over the long run by closing seven depots. Although it may take several years for DoD to break even, the magnitude of longer-term net savings may warrant paying the earlier costs. Most of the costs and benefits associated with this option would also accrue under intraservice consolidations.

Opponents of a centralized management structure argue that it is politically and bureaucratically impractical. The services are reluctant to cede control over maintaining their weapons, arguing that separate control of depots provides a closer link between the users and suppliers of maintenance services. Some argue that overlap may be needed to ensure a ready source of repair that is dedicated to each service's mission and knowledgeable about its specific operational needs.

In recent years, the Congress has imposed constraints on centralizing and consolidating depot operations, preferring that any further base closures be left to the BRAC process. In the face of these hurdles, DoD will find it difficult to gain the authority to implement such a dramatic change in management structure.

Intelligence Activities

If unclassified press sources are accurate, spending on the more than 20 agencies that make up the intelligence community amounts to about $28 billion per year, or about 10 percent of the DoD budget (where most of it is found). Intelligence plays a critical support role for national defense, determining both how well the U.S. military performs in wartime and when and if it will engage in combat. The intelligence community has played a useful role in producing analysis about many other countries in the world, including their economies, military forces, and political structures. Its analysis has provided the basis for negotiating arms control treaties, responding quickly and effectively in crises, and ensuring that a surprise attack against the United States was not under way.

The intelligence community's budget has already been cut by about 15 percent relative to peak levels. Current plans call for further budget reductions, as well as additional cuts in personnel levels, that will leave the community about 23 percent smaller at the end of the decade than it was at the beginning. But a number of observers, including Senator Sam Nunn, remain interested in the possibility that further changes in the intelligence community may achieve greater efficiencies--and real savings. Several plans for reorganizing the intelligence community have been discussed by Members of Congress who have held leadership positions on Congressional committees that oversee intelligence. The options CBO considers build on the ideas of those lawmakers to discuss approaches that might produce further economies in the provision of intelligence.

One approach to achieving economies would rely heavily on organizational changes, perhaps similar to those discussed in the bill proposed by Senator David Boren and Representative Dave McCurdy or to the changes in a bill proposed by Senator Daniel Patrick Moynihan. Another approach to restructuring would remain agnostic on detailed organizational changes, but would scale back resources devoted to intelligence activities on the assumption that some of its missions--such as those focusing on economic, environmental, and antinarcotics matters--are not central to U.S. security or are being handled effectively by other parts of the U.S. government or the private sector.

Either way, the CBO alternative assumes that another 5 percent cut in spending could eventually be achieved by organizational restructuring or by eliminating certain missions. A cut of that size would result in a total reduction of perhaps 25 percent since 1990 and save $1 billion per year once the personnel reductions were fully made. CBO assumes, though, that most of the cuts in spending would not occur until the next decade, after the current round of cuts has been completed.

Cutting the intelligence community even more raises a number of concerns. Key U.S. security concerns of the post-Cold War world include stopping the proliferation of weapons of mass destruction, predicting the possible onset of ethnic and regional conflict in time to attempt to avert it diplomatically or with preventive deployments of forces, and tracking the activities of terrorist groups and other extremist political organizations. These concerns are often best addressed preventively, if possible, rather than through the use of military deterrence or military force. Thus, a redundant organizational structure that ensures a competitive dynamic to intelligence work may represent a wise insurance policy, and a relatively cheap one, compared with the spending a new arms race or war might entail.

Pilot Training

The United States invests substantial resources in training its military personnel, in the conviction that well-trained fighting forces are most likely to win wars quickly with the lowest loss of life. Each of the military departments maintains a large and sophisticated training establishment to achieve that goal. A number of military experts believe that some of these separate organizations could be consolidated. For example, Senator Nunn has suggested that training might present a number of areas for consolidation, including pilot training. Consolidation can save money and might produce a

more coordinated fighting force at a time when the services expect to work more closely together than ever before.

Former Senator Barry Goldwater's irritation about duplication in U.S. air power--that the United States was the only country with four air forces--also seems applicable to organizations for training pilots. Each of the three military departments operates its own schools, facilities, and programs. (Marine Corps and Navy pilots train in the same facilities.) Though operational skills may vary from service to service, Senator Nunn suggested that basic flying skills are similar.

DoD also recognizes this overlap. For example, the Air Force and Navy are developing and buying a common trainer aircraft--the Joint Primary Aircraft Training System (JPATS). And consolidating fixed- and rotary-wing (helicopter) pilot training was one of the few suggestions proffered by Senator Nunn that was endorsed by former Chairman of the Joint Chiefs of Staff Colin Powell. But service plans call for an almost glacial pace in integrating training for fixed-wing pilots: only after substantial deliveries of the JPATS toward the end of this decade will small numbers of students train together. Study results on consolidation of rotary-wing training have yet to emerge from the Pentagon.

Fixed-wing flight training could be consolidated without waiting for JPATS deliveries. Indeed, consolidation would reduce the need to buy JPATS immediately, since having Air Force pilots train initially in the Navy's primary trainer--the T-34--would substantially reduce the use of the Air Force's T-37 primary trainer. The Air Force could then keep its T-37s longer and JPATS procurement could be deferred at least until after the turn of the century. Deferring JPATS would result in savings of about $200 million in 1995 and about $1.3 billion for the 1995-1999 period, though the trainer would still need to be bought in the long term. Rotary-wing training could also be fully consolidated among all of the services. This step would require the Navy to give up its current practice of assigning students to a helicopter track based on their performance during an initial phase of fixed-wing training. Changing this practice, however, would reduce the total number of JPATS that DoD would need to buy by about 120 planes.

Merging the individual services' programs for fixed-wing as well as for helicopter training might also increase the efficiency of the DoD's infrastructure by reducing overhead, since all training of a particular type would be conducted on one or two bases. In addition, it would permit the services to close three or four additional bases, eventually saving about $200 million each year after initial closure costs. Moreover, joint training might

lead to the adoption of the best practices from each service and foster interservice cooperation--increasingly important in a period when DoD is stepping up its reliance on joint operations.

Nonetheless, consolidating pilot training may have disadvantages. Some savings would be offset by higher costs. Such costs would include increased travel costs, higher maintenance costs for the older T-34 and T-37 aircraft, and one-time costs of base closure. Moreover, delaying purchases of JPATS means that the military would forgo the advantages of a new trainer for some years. These advantages include having an ejection seat in training aircraft, a digital cockpit common to aircraft that pilots will later fly, the ability to train at higher altitudes, and a cockpit designed to accommodate smaller female pilots.

Adopting common rotary-wing training--without a fixed-wing introduction--would be unattractive to all services except the Army. Proponents of initial fixed-wing training for all pilots believe actual flying is a better way to screen candidates and to allocate fledgling pilots to fixed-wing aircraft rather than to the less demanding helicopter track. The Navy and the Coast Guard--which receives its initial training from DoD--also have expressed concerns that helicopter pilots would no longer be able to operate fixed-wing aircraft at a later date, or serve a stint as fixed-wing instructors. For its part, the Marine Corps is concerned that helicopter pilots need an initial period of fixed-wing training to fly the V-22 aircraft--the planned replacement for a portion of the Marines' transport helicopter fleet--which takes off like a helicopter and flies like a fixed-wing aircraft.

CONCLUSION

CBO chose the preceding alternatives because they demonstrate one or another of the characteristics described earlier. The options considered were also selected because they represent promising functional changes. Of course, some of the ideas discussed in this paper may be abandoned as further study is devoted to them. Perhaps they save too little, or up-front costs are too daunting. Perhaps they face insurmountable institutional or political barriers or produce undesirable consequences.

Nor is the set of alternatives considered exhaustive. Defense experts have offered a number of other options and will no doubt uncover other functional areas that could benefit from restructuring in the future. Indeed, many creative ideas may emerge from the new roles and missions commission.

The infrastructure arena will remain central both to the roles and missions debate and to debates on future budgets. Whatever the specific sets of options, DoD and the Congress will need to keep looking for better, more efficient ways of doing business. Finding efficiencies in infrastructure may be the most promising way for the United States to keep credible fighting forces with austere budgets.

CHAPTER I

INTRODUCTION AND BACKGROUND

In the aftermath of the Cold War, a number of defense experts have argued that the military should be reorganized to reflect new challenges rather than simply shrinking the Cold War establishment. Debate on this issue often takes place under the rubric of "roles and missions," since the issue revolves around reorienting the services' roles and eliminating overlapping missions for which the services have duplicative capabilities.[1]

The term roles and missions may evoke consolidation of combat missions, but more than half of the budget of the Department of Defense (DoD) consists of programs that do not directly pay to acquire or operate combat forces. A number of these support (or infrastructure) functions are performed separately by each service and thus might be reasonable candidates for consolidation. Indeed, the Assistant Secretary of Defense for Strategy and Requirements, Ted Warner, recently suggested that "there could be some major financial benefits [to the consolidation of the services' roles and functions], especially savings associated with consolidation in infrastructure."[2]

Changes in DoD's environment in the roughly 50 years since the department was created may also offer opportunities for restructuring its functions. In addition to being performed separately by more than one service, many DoD support services are performed by firms in the private sector. More emphasis could be placed in the support area on reducing the department's role as a direct producer of services and increasing its reliance on the infrastructure available in the private sector. Geopolitical changes might also permit eliminating or deemphasizing some activities.

Debate on roles and missions is not new, but it has recently intensified. Senator Sam Nunn, Chairman of the Senate Armed Services Committee, made a seminal speech on the topic in 1992, in which he described a number of support functions that DoD might consolidate.[3] The Senator also

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1. The Congressional Budget Office published an analysis of combat forces last March in "Options for Reconfiguring Service Roles and Missions," CBO Paper (March 1994), for the Senate Budget Committee. In that publication, CBO promised to provide this analysis of support functions to the Committee.

2. "One on One" interview with Ted Warner, Assistant Secretary of Defense for Strategy and Requirements, *Defense News*, June 6-12, 1994, p. 46.

3. Senator Sam Nunn, "The Defense Department Must Thoroughly Overhaul the Services' Roles and Missions," *Congressional Record*, July 2, 1992, pp. S9559-S9565.

mentioned several functions that might be candidates for restructuring, such as depot maintenance--for which he recommended increased competition between public and private sectors--and the collection and analysis of intelligence. (Excerpts from Senator Nunn's list are shown in Table 1.)

In response to the Congress, the Department of Defense subsequently provided an analysis of consolidation for potential roles and missions.[4] General Colin Powell, then Chairman of the Joint Chiefs of Staff (JCS), headed this effort, which concluded that in most of the functions described as potential areas of overlap by Senator Nunn the services should continue to meet their needs independently. General Powell asserted the importance of redundancy in combat missions and in many support missions as well.

CONGRESSIONALLY DIRECTED COMMISSION ON ROLES AND MISSIONS

Rejecting the JCS report, the Congress established a new and independent Commission on Roles and Missions.[5] According to the language about the bill that established the commission, "The House bill contained provisions (Title XIV) that would establish a commission on roles and missions of the armed forces. This action stemmed from a dissatisfaction with the scope of the roles and missions reforms recommended by the Chairman of the Joint Chiefs of Staff earlier this year in his triennial report." The commission must produce a report on consolidating roles and missions and restructuring DoD functions within one year of its first meeting.

The first meeting of the commission--which set the clock running--took place on May 24, 1994. The commission's staff discussed a tentative organization for the commission's inquiry in that meeting. That organization suggests that the commission will pursue an analysis of roles and missions for DoD under two areas of inquiry: forces and infrastructure. Many of the infrastructure categories identified by the commission overlap with the support activities of the earlier efforts.

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4. Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993).

5. U.S. House of Representatives, *National Defense Authorization Act for Fiscal Year 1994, Conference Report to Accompany H.R. 2401*, Report 103-357 (November 10, 1993), p. 706. The language was initiated in the report of the House Committee on Armed Services, *National Defense Authorization Act for Fiscal Year 1994*, Report 103-200 (July 30, 1993), p. 361. The conference accepted the House idea, but it shortened the commission's term, provided for appointment of commission members by the Secretary of Defense, and eliminated a requirement that the commission review DoD actions on consolidation.

TABLE 1. SUPPORT AREAS FOR POSSIBLE CONSOLIDATION OR RESTRUCTURING

Issue Raised by Senator Nunn	Action Taken or Recommended by the Chairman of the Joint Chiefs of Staff
Intelligence Activities	Further consolidation of intelligence production centers under a joint intelligence organization. Study additional options for restructuring.
Pilot Training	Consolidate initial fixed-wing training and use a common trainer; study consolidating initial helicopter training. Create four training pipelines for follow-on training.
Medical Corps	Not addressed.
Maintenance Depots	Consider closing 7 or 8 of the 30 depots, relying more on the private sector to provide services.
Weapons Development and Acquisition	Not specifically addressed, though several sections of the report recommend procuring common systems.
Consolidate Chaplain Corps and Legal Services	Do not consolidate since it will harm morale and not save any money.

SOURCE: Congressional Budget Office based on Senator Sam Nunn, "The Defense Department Must Thoroughly Overhaul the Services' Roles and Mission," *Congressional Record*, July 2, 1992, pp. S9559-S9565, and Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993).

NOTE: Senator Nunn also listed a number of combat functions that DoD might consider restructuring. Some of those are discussed in more detail in Congressional Budget Office, "Options for Reconfiguring Service Roles and Missions," CBO Paper (March 1994).

BUDGET PRESSURES FOR RESTRUCTURING

Congressional pressures for restructuring spring at least in part from the belief that the U.S. armed forces can become more efficient if they are reorganized and if redundancies are eliminated. Both DoD and the services feel these budget pressures as well and may be more amenable to consolidation or restructuring in today's austere funding climate than they were in times of plentiful funds. Indeed, according to press reports, the Joint Chiefs of Staff under Chairman John Shalikashvili and Vice Chairman William Owens may be wresting more control of DoD's resources from the individual services.[6] A heightened JCS role in the budget process might increase the emphasis on joint programs and activities in future plans. Admiral Owens experienced some success in restructuring naval functions before he came to the JCS.

DoD's budget woes have been widely discussed. An earlier CBO analysis suggested that the funds in the five-year plan should be roughly sufficient to fund Administration force plans.[7] But it identified several potential problem areas that, though small as a percentage of the overall DoD plan, could create a need for further program reductions. Problem areas include:

- Shortages in the Administration's Plan. Secretary of Defense William Perry told the Congress that the Administration's plan was $20 billion short over the five years. He argued that declines in inflation might eliminate some of these shortages. But inflation rates might not prove to be lower than the Administration's estimates, so DoD may instead need to make real reductions in its program. Indeed, the department may already have begun. Recent press reports suggest that DoD's direction on preparing next year's budget involves programmatic cuts of about $10 billion, presumably over the 1996-2000 period.[8]

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6. Robert Holzer and Stephen C. LeSueur, "JCS Quietly Gathers Up Reins of Power," and "JCS Chairman's Rising Clout Threatens Civilian Leaders," *Defense News*, June 13-19, 1994, pp. 1 and 29, respectively. The articles suggest that increased JCS control could decrease overlap among service programs. But such organizational changes might simply displace civilian control, which presumably would also have aimed at eliminating duplication.

7. Congressional Budget Office, "Planning for Defense: Affordability and Capability of the Administration's Program," CBO Paper (March 1994).

8. Steps DoD takes to solve shortages in budget authority could relieve some of the pressure on accounts that spend quickly. For a discussion of this issue and others relating to the adequacy of defense funding, see Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 1995* (April 1994), Chapter 3.

- Pay Raises. The Administration's planned funding for future pay raises is lower than statutory recommendations. Both House and Senate authorization bills for fiscal year 1995 contain pay raises for military personnel of 2.6 percent, 1 percentage point higher than the raise requested by the Administration. Funding this raise in the years beyond 1995 will add to future budgets. Including pay raises at levels suggested in statutory language in future years will heighten budget pressures even more.

- Weapons Programs. Plans for DoD for the next five years include several programs that will enter procurement. Commonly, acquisition costs grow at the start of the procurement phase. If DoD decides not to delay programs or decrease quantities bought, additional funding could be needed for these programs.

- Environmental Cleanup. DoD has historically underestimated the funding needed for environmental cleanup. Funding could rise for these programs if today's planned funding proves to be as optimistic as it has been in the past.

- Base Closure. Savings from the base realignment and closure (BRAC) process could fail to materialize. DoD is currently suggesting that it may be difficult to eliminate all of the bases slated for closure as rapidly as currently planned, much less make another round of reductions in 1995. Ironically, this delay--if it materializes--could be caused by the need to reduce near-term budget pressure, since closing bases adds to costs. In the longer term, however, savings currently included in the estimates will not materialize if the bases remain open.

- Increases for Other Nondefense Programs. Defense could end up paying some share of increases in spending on domestic programs, if the Administration or the Congress feels that domestic programs should receive higher priority. About $20 billion would be needed over the 1995-1998 period to keep domestic discretionary programs from declining in real terms. Enacting national health care legislation or welfare reform could add to budget pressures.

CBO's analysis suggested that DoD could experience much larger shortages in the long term. Defense could need from $12 billion to $25 billion more per year over the 2000-2010 period than it would receive if the budget remains at 1999 levels in real terms. Although relatively modest real increases could meet these funding requirements, many defense experts doubt that these additional funds will be forthcoming.

INSTITUTIONAL BARRIERS TO CHANGE

DoD might be able to realize operating efficiencies even without restructuring and consolidating. Many of the savings from restructuring discussed in this paper stem from eliminating excess capacity created by the smaller demands placed on support functions by the post-Cold War military; others come from paring back functions that are no longer needed. Most of these changes could occur within the current organizational framework, if the Administration and the Congress chose to make the reductions and enforce them.

Institutional barriers, however, make this task difficult. The services have sound reasons for preferring to retain support capabilities under their own control, even at the cost of some loss of efficiency. The functions they fund and control, for example, are more likely to respond to their needs. Also, any gains from efficiency are likely to result in overall budget reductions rather than increased funding for other programs. Moreover, keeping control of a support activity not only increases a service's total budget--perhaps providing flexibility to reallocate resources--but also offers additional command assignments, personnel billets, and other bureaucratic advantages. A service's tendency when faced with budget reductions thus may be to make pro rata cuts rather than risk losing control of a function by cutting it disproportionately.

By contrast, restructuring responsibilities within DoD might break down some of the bureaucratic barriers to change and, as a result, increase the chance of eliminating redundant or obsolete capabilities. Placing responsibility for a support activity in an independent agency, for example, might free managers to choose between competing facilities or providers in DoD and the private sector.

However, political as well as bureaucratic barriers create obstacles to major restructuring. Both the Administration and the Congress may want to preserve bases and programs that have little military utility but that nonetheless benefit specific constituencies. Concerns about the need to cut the defense budget or to provide services more efficiently may be outweighed by the closing of major military facilities or by the loss of jobs, especially if the military services also are opposing efficiencies because of the prospect of losing control of functions they wish to keep. In the pluralistic U.S. political system, the costs of restructuring--whether imposed on the military services, defense employers, or communities--may be more visible than the benefits conferred on the economy at large.

INFRASTRUCTURE AND SUPPORT

Nevertheless, budget pressures may cause the services to focus on restructuring, which may be less contentious in support programs than in combat areas. Support and infrastructure programs may also receive more attention in the newest of DoD's roles and missions efforts.

The staff of the roles and missions commission used DoD's programmatic structure to provide a rough conceptual breakout between forces and infrastructure. All DoD resources are divided into 11 major programs. (Table 2 provides a listing of the major programs and their resources.) The staff's delineation defines support by what it is not: forces. They characterized forces as those activities receiving funding in the following major programs: Strategic Forces (Program 1), General Purpose Forces (Program 2), Airlift and Sealift (Program 4), Guard and Reserve Forces (Program 5), and Special Operations Forces (Program 11). Funding for force programs totaled $132 billion, or about 51 percent of total DoD funding in 1994. In the Administration's fiscal year 1995 plan, that is scheduled to decrease in real terms to about $116 billion by 1999 (in 1995 dollars).[9]

Using that definition, infrastructure functions constitute the remainder: Command, Control, Communications, Intelligence, and Space (Program 3); Research and Development (Program 6); Central Supply and Maintenance (Program 7); Training, Medical, and Other General Personnel Activities (Program 8); Administrative and Associated Activities (Program 9); and Support of Other Nations (Program 10).[10] Funds for these infrastructure programs total $125 billion, about 49 percent of the DoD budget for 1994. Funding will decline to $111 billion in real terms by 1999 in the current plan, though these programs will keep the same share of the DoD budget.

Funds for infrastructure could be even greater. Indeed, the Bottom-Up Review's estimate of funds for infrastructure in 1994 contained about $35 billion more than funding in the these programs. That additional funding includes payments for depot maintenance and administrative activities that are included in the forces programs.

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9. The Congressional Budget Office lacks indices weighted by the specific spending patterns associated with the major programs and so used aggregate Department of Defense inflators.

10. A category that reflects the negative wedge in the Administration's plan is allocated proportionally to forces and infrastructure.

TABLE 2. DEPARTMENT OF DEFENSE FUNDING BY MAJOR PROGRAM (In billions of 1995 dollars and percentages)

Program Number and Description	Total Obligational Authority[a]						Percentage Change from 1991	
	1991	1995	1996	1997	1998	1999	1995	1999
Forces								
1 Strategic Forces	21	8	8	7	7	7	-60	-68
2 General Purpose Forces	133	89	86	82	84	82	-34	-38
4 Airlift and Sealift	6	9	9	7	8	9	38	37
5 Guard and Reserve Forces	20	18	18	18	17	17	-9	-13
11 Special Operations Forces	3	3	3	3	3	3	5	5
Total	183	127	123	117	119	118	-31	-36
Total After Adjustment for the Undistributed Reduction	183	127	120	115	117	116	-31	-37
Share (Percent)	54	50	50	50	51	51	-7	-5
Infrastructure								
3 Command, Control, Communications, Intelligence, and Space	33	31	31	30	30	29	-7	-12
6 Research and Development	30	26	25	24	22	21	-13	-30
7 Central Supply and Maintenance	35	19	17	16	15	16	-47	-55
8 Training, Medical, and Other General Personnel Activities	49	42	40	39	38	39	-14	-20
9 Administrative and Associated Activities	10	7	8	7	7	7	-27	-30
10 Support of Other Nations	1	1	1	1	1	1	1	-23
Total	158	126	121	117	113	113	-20	-29
Total After Adjustment for the Undistributed Reduction	158	126	118	114	111	111	-20	-30
Share (Percent)	46	50	50	50	49	49	8	6
Total Funding								
Forces and Infrastructure	341	253	244	234	233	230	-26	-32
Future Program/Budget Adjustments[b]	0	0	-6	-5	-5	-3	n.a.	n.a.

SOURCE: Congressional Budget Office based on Department of Defense data.

NOTE: n.a. = not applicable.

a. DoD's aggregate inflation indices were used to deflate DoD's current-dollar projections, since CBO lacks weighted indices for programs.

b. CBO assumes this undistributed reduction is divided proportionally between forces and infrastructure.

DoD spends an even larger share of its budget on support activities. The term infrastructure can connote centralized activities or activities that are not force-related. But the DoD budget also funds a number of activities that do not contribute directly to combat, but rather support combat activities, and are found in the programs designated as forces in this breakout. For example, a number of activities performed by the guard and reserve are support activities, though they are listed in Program 5. Similarly, some analysts might argue that airlift and sealift support combat, but they too would be designated forces rather than support in the commission staff's definition.

Given the magnitude of the funds--and the sizable share of its budget--that DoD devotes to even the narrowest definition of support activities, any serious look at consolidation or reorganization must consider support functions, though some analysts have reservations about the efficiency of consolidations (see Box 1 for a discussion of some of their concerns). Whatever the reservations, finding savings through consolidating support activities could permit the services to keep combat forces at higher levels or to preserve their readiness.[11] Merging support programs may also coincide with consolidating combat functions.

Emphasis on joint warfighting--having the military services plan and execute missions together--may strengthen arguments for consolidation. U.S. defense strategy in the post-Cold War world seems to place more emphasis on joint warfighting, perhaps reflecting the realities of recent conflicts and the need for the services to work together because of their smaller force levels. Even if service-specific combat missions are not consolidated, joint warfighting may place a premium on consolidating support functions. Services that operate the same systems, receive the same early training, and share common sources of intelligence may fight better together. Consolidating support functions may improve the chances of those outcomes. For example, the services may be somewhat more likely to develop common equipment if there is a unified acquisition command, which suggests that there may be good reason to promote consolidation of certain support missions on grounds of effectiveness as well as efficiency.

11. For a discussion of readiness, see Congressional Budget Office, "Trends in Selected Indicators of Military Readiness, 1980 Through 1993," CBO Paper (March 1994).

BOX 1
THE ECONOMICS OF CONSOLIDATION

Many policymakers assume that consolidating related functional activities will yield savings. But does consolidating activities make economic sense? The answer is not obvious, and will depend on several factors that must be assessed for each individual situation.

The first of these is the economic scale of a single facility. Take automobile manufacturing as an example. The economic scale of an automobile assembly plant appears to be a facility producing 200,000 to 300,000 cars or trucks a year and employing about 3,000 workers. Through experience, manufacturers have found that plants of that size can gain the advantages of increased scale of operations without growing unwieldy. Since the U.S. automobile industry produces about 10 million vehicles a year, around 40 such assembly facilities--as well as thousands of more specialized, and generally smaller, parts manufacturers--are needed to meet the demand.[1] Clearly, given these facts, there is room for several different firms to occupy economically profitable roles within the overall industry, and there is little reason to expect that consolidating firms into one giant entity would offer any savings in production costs (not to mention its negative effect on competition).

This scale factor is most relevant to Department of Defense activities that resemble industrial or commercial functions, such as depots, shipyards, and arsenals, as well as medical facilities, commissaries, and other facilities providing services to military personnel. In general, the economic principle at work is that if some or all of the services do not generate enough work to staff a single facility economically, then consolidation will surely pay. Conversely, however, if their separate work loads already justify multiple facilities--operating at economic scales--then it is not obvious why consolidation should offer savings.

The second major economic principle is the diseconomy of large organizations. As organizations grow, they tend to add managers and support personnel faster than direct (or "touch") labor. In other words, they tend to become less efficient in their use of personnel. That is a well-documented empirical observation for which several explanations have been offered. One explanation is found in network theory--as the number of nodes in a network grows arithmetically, the number of possible interconnections grows geometrically. If the role of managers is to facilitate the exchange of information among workers, then the managers correspond to the interconnections while the direct workers correspond to the nodes. A more practical reason may be that the larger the organization, the harder it is to track the contribution of individual workers or managers to the "bottom line" and therefore the easier it is to add layers of bureaucracy.

This second observation bears most directly on organizations whose "product" is knowledge--the intelligence community is one example drawn from DoD. Where the chief economic activity is the exchange of information and there are no offsetting physical economies of scale to exploit, one may find that large organizations are handicapped relative to smaller ones.

All of the above applies to a "pure" consolidation--in which the exact same level of work effort is maintained. Proponents of consolidation typically have in mind a very different situation--one in which separately operated facilities have large amounts of excess capacity, and separately maintained support and management structures are oversized relative to the activities they control. Under these conditions, consolidation will tend to offer significant savings, but so would trimming the fat from each of the separate organizations without necessarily consolidating them.

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1. For further discussion of the automobile industry, see Chapter 4 of J.P. Womack, D.T. Jones, and D. Roos, *The Machine that Changed the World* (New York: Macmillan, 1990).

CHARACTERISTICS OF CANDIDATES FOR CONSOLIDATION OR RESTRUCTURING

It may be helpful to identify characteristics that make some functions better candidates for consolidation than others. There may also be cases where fundamental restructuring might be considered. Support functions that are candidates for consolidation might include those that:

- Involve tasks or activities common to more than one service (for example, medical care and beginning pilot training);
- Have significant excess capacity as DoD decreases the size of its forces (for example, facilities with the capacity to absorb additional work);
- Maintain common equipment, or offer opportunities for savings from buying or developing common systems from anticipated modernization;
- Support combat activities where missions are shifting; and
- Support joint combat activities, where consolidation might improve performance.

Support functions that are candidates for restructuring might include those that:

- Are not uniquely military and are already being performed in the private sector by a competitive industry;
- Although unique to DoD, are not closely tied to warfighting capabilities; and
- Meet requirements that are undergoing significant change.

A number of functional areas may meet these criteria. In the following analysis, the Congressional Budget Office (CBO) provides illustrative examples of consolidation or restructuring in several areas: services to DoD personnel; purchase and maintenance of weapons; intelligence; and training. For each of these examples, the following chapters discuss how the restructuring might work, how it might improve capabilities, and any potential disadvantages it might have. The examples were chosen as illustrations and are not exhaustive. CBO does not make recommendations, so readers should

not interpret the inclusion of a particular function as a CBO recommendation for restructuring. Nor should readers necessarily interpret exclusion of a particular function as CBO's sanction of the current organization.

Each segment also contains a set of illustrative costs and savings associated with the particular example. Savings and costs are relative to the Administration's plan for fiscal year 1995. Producing these estimates involves making a number of assumptions, not only about how the particular change would be implemented but also about assumptions in the current plan.

Savings associated with the options discussed here are affected by other aspects of the DoD budget process. One complicating factor is the base realignment and closure process. Bases that might have been closed under BRAC might also be closed under consolidation or restructuring, and obviously closing a particular facility can only yield one set of savings. A second consideration is that the Administration's plan contains several undistributed reductions. One is the $20 billion shortfall discussed by Secretary Perry. A further undistributed reduction, however, is included in the allowances section of the federal budget (function 920). That section contains undistributed reductions resulting from procurement reform that, over the 1995-1999 period, total $12 billion (in current dollars). The Office of Management and Budget has allocated only the 1995 savings--about $0.7 billion--to specific agencies, so it is difficult to estimate what DoD's share of the roughly $11 billion remaining might be. But DoD expends a large portion of the procurement funds found in the federal budget and therefore might have to absorb a large share of the cut.

The Administration may need to resort to some of the personnel reductions and base closures discussed in the various options to allocate these undistributed reductions. Some of the costs and savings shown here thus may already be included in the Administration's planned funding.

CHAPTER II

SOME OPTIONS FOR RESTRUCTURING SUPPORT SERVICES PROVIDED TO MILITARY PERSONNEL

The Department of Defense provides a wide range of services for military personnel and their dependents, including child care, schools, commissaries and exchanges, legal services, family housing, and medical care. These services are important components of the total compensation package that the military uses to attract and retain active-duty personnel. Consolidation and streamlining in these areas could mean consolidating responsibility for a particular support activity among the various services. Alternatively, it might mean a reduced role for DoD as a direct producer of such services and increased reliance on the private and public infrastructure that serves the U.S. population as a whole.

This chapter examines options in two support areas: medical care and family housing. In the case of medical care, the duplication of assets among the services and the cost-effective delivery of military medical care are both important concerns. The medical care option would address them by consolidating management responsibility at the DoD-wide level for all aspects of care--whether care is provided at military medical facilities or in civilian health care facilities. In the case of family housing, the primary issue is the trade-off between relying on private-sector housing and continuing to use on-base housing. The options examined here focus on consolidating funding for family housing benefits (both housing allowances and DoD housing units) within each service in a way that will encourage more use of private-sector housing when it is cost-effective.

MEDICAL CARE

Medical care is a key part of the military compensation package for active-duty personnel and their families. It is also a major benefit enjoyed by retirees and their family members. Care is provided or administered by a number of DoD organizations that make up the Military Health Services System (MHSS).

DoD faces two related challenges in providing quality medical care to its beneficiaries. Its key challenge is to operate a cost-effective health care system. However, achieving that goal--and taking the steps needed to deliver cost-effective care--is not easy because of an organizational framework that divides management and fiscal authority over the Military Health Services

System among four separate organizations and reduces the potential for allocating and using medical resources efficiently.

Background: The Military Health Services System

In fiscal year 1994, the Department of Defense will spend about $15 billion to support the Military Health Services System. The MHSS is one of the largest health care systems in the nation. Together, the Army, Navy, and Air Force operate the direct care system, which consists of about 135 medical centers and regional and community hospitals plus more than 500 clinics worldwide. In 1994, more than 55,000 civilian personnel and about 140,000 active-duty military personnel worked for or in support of that system of care.

That substantial military medical establishment has a twofold mission: wartime readiness, which requires having the capability to meet the armed services' wartime medical needs; and the peacetime benefit mission, which means providing medical care during peacetime to uniformed personnel and other eligible beneficiaries, including dependents of active-duty personnel and retirees, their dependents, and survivors.

Historically, the capacity of the military hospitals and clinics (military treatment facilities, or MTFs)--in terms of the number of hospital beds and physicians--has fallen short of requirements for both missions. Wartime requirements during the Cold War, which reflected the scenario of an all-out conventional war in Europe, exceeded the services' ability to care for projected combat casualties and nonbattle disease and injury rates. DoD's plans during that period also included substantial backup hospital capacity for extended care through contingency agreements with the Department of Veterans Affairs and civilian hospitals under agreement with the National Disaster Medical System. Along with those plans, DoD also relied on reserve physicians and still does.

Peacetime demand has also exceeded the capacity of the military medical establishment, prompting the Congress in 1966 to establish the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), DoD's traditional fee-for-service insurance program that covers most of the care that beneficiaries receive from civilian health care providers when care in military facilities is not available. By way of illustration, more than 8.5 million people are eligible to receive health care through the military, though only 6.5 million actually do use the military health care system. Military medical facilities provide the majority of care to those who use the military health care system; CHAMPUS provides the rest.

Post-Cold War Requirements for Medical Care

Today, however, the size of the military medical establishment is more than adequate to meet the requirements of the wartime mission. Instead, it is the demand for health care by eligible military beneficiaries during peacetime that drives the size of today's military medical establishment.

These findings for the post-Cold War era are based on a major review of the Military Health Services System recently completed by the Department of Defense. In this so-called "733 Study," mandated by the Congress in Section 733 of the National Defense Authorization Act for Fiscal Years 1992 and 1993, DoD analyzed peacetime and wartime requirements for health care. Two major objectives of the 733 Study were to determine the scale of the wartime mission for military medical care in the post-Cold War era, and to determine independently how to provide cost-effective care in peacetime to eligible military beneficiaries.

The wartime mission was sized to reflect current defense policy, which calls for the capability to fight two nearly simultaneous major regional conflicts. Although the study adopted a number of conservative assumptions, which tended to increase the work-load requirements, the resulting estimates of wartime requirements are substantially lower than those based on Cold War scenarios. Equally significant was the study's finding that the capacity of military treatment facilities is now well above projected wartime requirements, in contrast to the situation that existed during the Cold War.

The reduction in wartime requirements means that the decision to size the military medical establishment should be based on the cost-effectiveness of that system to meet the peacetime demand. DoD concluded that, for individual episodes of treatment, it costs less to provide care in the MTFs than through CHAMPUS. Nonetheless, the study found that improving access to care at the MTFs would increase total medical costs, since savings from recapturing individual cases would be more than offset by increases in the volume of care provided at the MTFs. Key to this finding is that improved access to care at the MTFs would encourage "ghost" beneficiaries (those eligible to use the military health care system who do not do so) to reenter the system and forgo receiving care from other non-DoD sources--leaving DoD to pay for the care that private insurance would otherwise have paid. A secondary reason--albeit still important--is that rates of health care use are higher among beneficiaries receiving care at the MTFs than for those relying on CHAMPUS. The explanation is twofold: MTF care is virtually free to beneficiaries, and military providers tend to deliver more care than civilian practitioners.

In sum, DoD cannot provide care more cost-effectively in the military treatment facilities than through CHAMPUS or other civilian plans. That conclusion applies unless DoD can control the demand by beneficiaries for care at the military treatment facilities.

Efforts by DoD to Improve the Cost-Effectiveness of the Military Health Services System

Efforts are now under way by DoD to improve the cost-effectiveness of the peacetime health care delivery system and ensure the readiness of all military medical personnel for wartime. To improve the capability of the Military Health Services System to meet the peacetime mission most cost-effectively, DoD has a new approach, called Tricare, for delivering and financing health care in the military on a regional level. Two of the major components of Tricare are a new management structure and a system of capitated budgeting.

Under the new management structure, DoD has divided the country into 12 health service regions, within each of which DoD has appointed a military medical "lead agent" with responsibility for coordinating the delivery of health care. Each lead agent will be responsible for developing a plan for regional health services in conjunction with the hospital commanders of the military medical facilities within the region. Each plan is expected to outline how the region intends to meet the goals of managed care--particularly how it would set up a civilian provider network and adopt utilization management. The objective of this approach is to ensure both the cost-effective integration of CHAMPUS care with that at the military treatment facilities and a coordinated approach to care by the three military departments.

Capitated budgeting is another major feature of the Tricare program that attempts to improve the efficiency of the Military Health Services System. To give the military departments a fiscal incentive to control costs, DoD introduced a system of capitated budgeting in 1994. Under capitated budgeting, each of the military departments, and in turn each hospital commander, receives a fixed amount per beneficiary for providing all health care to the population within its hospital's defined service area. The allowance per beneficiary is based on the sum of all the costs of providing care through the Military Health Services System, including military medical personnel resources that fall under the purview of the services.

Option to Adopt HMO Staffing Patterns at the Military Facilities

In addition to a new method of financing and delivering health care to military beneficiaries, Tricare plans to introduce several of the managed care strategies that are now a part of many civilian plans. These strategies represent positive steps toward improving the cost-effectiveness of the Military Health Services System: for example, extending current guidelines on the appropriateness of inpatient care to the military treatment facilities and establishing "gatekeepers" to control the use of outpatient care.

Nonetheless, introducing mechanisms to improve the cost-effectiveness of the military's health care system may not be sufficient. Delivering peacetime health care most cost-effectively may require a more stringent examination of the level of resources necessary to support the military health care system. As designed, Tricare would essentially preserve the military medical establishment, along with the historical level of resources used to support that system of health care. If inefficiencies are part of the current medical system, Tricare's approach to reform may tend to perpetuate them.

One way to build on the incentives to be introduced under Tricare as well as address one of the demand factors raised in the 733 Study--that is, higher rates of health care by military beneficiaries--would be to encourage providers to deliver care in a more economical manner. DoD could achieve that goal at the military treatment facilities by establishing the requirements for active-duty physicians based on the experience of health maintenance organizations (HMOs). HMOs are generally accepted as a cost-effective way to deliver care to a defined group of enrollees by controlling their use of health care and delivering services as economically as possible. Specifically, this option would require the military treatment facilities to adopt new patterns of physician staffing based on the experience of HMOs. Adopting HMO standards would also be consistent with the department's plans for establishing Tricare--a program of managed care--nationwide.

Civilian HMO staffing patterns would require about 150 physicians per 100,000 beneficiaries.[1] Adjusting for the disproportionately larger number of beneficiaries 65 years or older using the military health care system, DoD might need about 160 physicians per 100,000. Assuming that roughly 5.1 million beneficiaries actually use the military treatment facilities worldwide,

1. The number of physicians needed to meet the HMO-based standard of 150 physicians per 100,000 is based on data reported by the Group Health Association of America, Inc., *HMO Industry Profile, 1993 Edition* (Washington, D.C.: GHAA, Inc., 1993). Roughly 150 physicians per 100,000 would put the military between the 50th and 75th percentile for all HMOs.

DoD will provide an estimated 185 physicians per 100,000 beneficiaries (roughly 9,500 physicians) in fiscal year 1995.

The estimated baseline ratio of 185 physicians per 100,000 (or 9,500 physicians) reflects several adjustments to the total number of active-duty physicians. In fiscal year 1995, DoD actually plans to have a physician end strength of about 13,000. That number includes all active-duty physicians, medical residents and fellows, and a work force of about 600 civilian physicians. (The total work force of physicians is well above DoD's projected post-Cold War wartime requirement of around 5,000 active-duty physicians.) Not all physicians are available to provide peacetime care. To account for that factor, about 3,500 physicians (reducing the number from 13,000 to 9,500) were excluded from this option. First, CBO excluded two categories of physicians: those assigned exclusively to the wartime mission, such as aviation and undersea specialists; and interns. Second, the option assumes that residents and fellows are only 35 percent as productive as full-time-equivalent physicians. Finally, the option assumes that active-duty physicians are only 95 percent as productive as their civilian counterparts because of the time they devote to readiness training.

Adopting HMO staffing patterns at military treatment facilities could lead to substantial savings, first from reducing the number of physicians and then from reducing the use of health care by beneficiaries that would follow cuts in staffing. Compared with an estimated 185 physicians per 100,000 beneficiaries in the services' 1995 work forces, putting HMO staffing patterns into effect might result in a cut of about 11 percent in total physician end strength. Such a reduction of nearly 1,500 physicians would permit a cut in the total medical budget of about $20 million in 1995 and close to $430 million over the next five years (see Table 3).

Those estimated savings assume that the reductions are in addition to drawdowns already planned for military and civilian physicians. The estimates of savings also assume a three year phase-in of HMO staffing standards. This option assumes no additional savings from reducing the use of health care by beneficiaries.

Impact of HMO Staffing Patterns on Peacetime Medical Care

Reducing the number of military physicians would decrease access to military medical care by beneficiaries. Indeed, HMO staffing patterns assume significantly lower levels of health care use by enrollees than the military

TABLE 3. SAVINGS FROM ADOPTING HMO STAFFING PATTERNS (In millions of dollars)

	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Budget Authority[b]	20	60	100	120	130	430	110

SOURCE: Congressional Budget Office.

NOTES: Includes savings from reducing physicians. Figures in the 1995-1999 period are in current dollars. HMO = health maintenance organization.

a. Long-term savings estimates are based on savings from the federal government. They are expressed in 1995 dollars.

b. Rounded to the nearest $10 million.

currently provides to its beneficiaries. The Congress might agree that such lower rates of use are desirable for the military. The higher rate of health care use by military beneficiaries compared with HMO rates, however, underscores the differences in practice patterns between military physicians and those who work in civilian HMOs. Unless the way that military physicians practice medicine were to change, reductions in the number of physicians could lead to rationing or poorer service for beneficiaries.

Opponents of this option might also claim that reducing the number of physicians creates only an indirect incentive to improve the efficiency of the Military Health Services System. Military medical facilities could fall short of staff, and CHAMPUS costs might then rise unless the volume of care demanded by beneficiaries declined--two specific problems that would prohibit DoD from reducing the number of health care personnel.[2] A more direct approach would be to decide on the number and size of military medical facilities to deliver care most cost-effectively, and then to develop staffing patterns based on the volume of care required by the population that the facilities would serve. Other, more direct ways to control health care might be to introduce other constraints on the use of military medical care by beneficiaries, such as copayments on the use of care at military treatment facilities.

2. Section 711 of the National Defense Authorization Act for Fiscal Year 1991 prohibits DoD from reducing military and civilian health care personnel below the numbers of such personnel serving on September 30, 1989, unless DoD certifies to the Congress that the number of personnel is excess to current and projected needs of the services and that reducing it will not increase costs under the CHAMPUS program.

A more serious problem that relates directly to the issue of access to care is the possibility that the number of eligible military beneficiaries electing to use the military health care system might exceed the number assumed in this option. In that event, the problems of excess demand, rationing, and declines in the quality of service would be greater than assumed here. Without a system of universal enrollment, DoD can only guess at the number of beneficiaries actually using its health care system, and the number of physicians assumed in this option might not actually be large enough to meet the target of 160 per 100,000 beneficiaries. Another reason staffing patterns could be too low is that more eligible military beneficiaries--many of whom currently rely on their private insurance as their primary source of coverage--might choose to seek care from the military. Denying them access to the free care at the military treatment facilities would almost certainly be viewed as a loss of their health care benefit.

In view of these uncertainties, this option makes the conservative assumption that beneficiaries receive all of their health care at military medical facilities, though they actually receive about 20 percent of their care under CHAMPUS. If the underlying assumption of a beneficiary population of users of about 5.1 million proves to be true, then the HMO-based standard of 160 physicians per 100,000 beneficiaries for the military could be as much as 20 percent higher than an HMO staffing pattern based only on the care delivered at the military treatment facilities.

Implementing New HMO Staffing Patterns Through Changes in Management Authority

Without a doubt, adopting HMO staffing patterns at the military treatment facilities--and cutting almost 1,500 physicians overall--would confront DoD with a major challenge to reshape the size and composition of its active-duty physician work force. Granting centralized management control over allocating all military medical resources to the military treatment facilities--including physicians--might make it easier for DoD to establish HMO staffing patterns. One single manager in charge of allocating all medical resources might be able to foster greater coordination among the military departments and take advantage of the opportunities to make interservice trade-offs more easily than is possible under the present management structure.

Current Structure of Authority over the Military Health Services System. Today, four separate officials and organizations have fiscal and management authority over the Military Health Services System: the Assistant Secretary

of Defense for Health Affairs and the Surgeons General of the Army, Navy, and Air Force.

The Assistant Secretary for Health Affairs is the principal advisor to the Secretary of Defense for all health policies, programs, and activities, and is responsible for setting policy and overseeing the wartime and peacetime capability of the Military Health Services System. To uphold these responsibilities, the Assistant Secretary has "authority, direction and control [over] the medical personnel, facilities, programs and funding and other resources within the Department of Defense."[3] Consistent with that centralized approach to management, one of the major responsibilities of the Assistant Secretary is to develop "a unified medical program to provide resources for all medical activities within the Department of Defense."[4] In practice, however, several factors limit the overall authority of the Assistant Secretary to supervise the health and medical affairs of DoD, including the method of allocating resources and the roles of the Surgeons General.

Total medical resources to support the Military Health Services System are allocated among the Assistant Secretary and the three military medical departments. The Assistant Secretary has direct control over only a part of the total medical budget, and thus can effectively develop a unified medical program only for the part of the budget that is controlled by Health Affairs--namely, the Defense Health Program (DHP), which totaled about $9.6 billion in fiscal year 1994. The DHP, which constitutes close to 65 percent of the overall medical budget, consists for the most part of operation and maintenance money covering such things as the salaries and benefits of civilian employees; supplies of X-ray film, food, and drugs; and utility costs in military treatment facilities. Also included are funds for reimbursement to civilian providers under CHAMPUS.

The military medical departments are part of the chains of command of the Army, Navy, and Air Force. (The Marine Corps comes under the purview of the Department of the Navy.) They have control over the portions of the budget not controlled by the Assistant Secretary of Defense for Health Affairs, chiefly compensation and benefits for active and reserve medical personnel. That part of the budget runs close to $5.1 billion, or roughly 35

3. See the October 1, 1991, Memorandum of the Office of the Deputy Secretary of Defense on "Strengthening the Medical Functions of the Department of Defense."

4. Ibid.

percent of the total resources available for the Military Health Services System.[5]

Because the military departments retain authority and control over all military medical personnel resources through the budget, as well as through the chain of command, trade-offs that might reduce duplication among the services--and possibly generate savings--are difficult for the Assistant Secretary to make. Similarly, trade-offs between CHAMPUS and the direct care system are more difficult to make under the current structure because the Assistant Secretary cannot require the military departments to share their resources.

Centralizing Authority over the Military Health Services System. Greater opportunities for trade-offs among the military medical departments and between the system of direct care and CHAMPUS--though not necessary for DoD to implement HMO staffing patterns at the military treatment facilities--could help to mitigate any problems of access to care at the MTFs and to ensure that resources are allocated throughout the Military Health Services System most efficiently.

The option discussed here would grant the Assistant Secretary of Defense for Health Affairs control over all military medical resources, including medical personnel resources. In much the same way that the Assistant Secretary allocates Defense Health Program dollars to the three separate medical departments today, the Assistant Secretary would allocate all resources for medical personnel--that is, both dollars and end-strength numbers--to the services in the future. Effectively carrying out this option would also require the Assistant Secretary to control civilian and military medical personnel end-strength numbers, which are now under the control of the services. The Surgeons General would carry on as the senior medical advisors within each service, with continued responsibility for executing policy and providing health care to military beneficiaries.

Advantages of Consolidated Control over Medical Resources. This new structure would have many advantages. Planning and budgeting for the peacetime and medical readiness functions by one single official could lead to improved coordination throughout the Military Health Services System. Cross-sharing of resources among the military medical departments--which now occurs to some extent--could be carried out more systematically. Doing so would help to increase the productivity of the direct care system, reduce

5. In fiscal year 1994, the total medical budget will run close to $15 billion. That budget includes three major components: the Defense Health Program, Military Medical Personnel, and Military Construction.

reliance on CHAMPUS, and ensure an adequate health care delivery system during wartime.

The increased ability of the Assistant Secretary to make trade-offs among the three military departments and to foster more cross-sharing of resources could also help to reduce any duplication arising from today's unilateral approach to financing health care in the military along service lines. In addition, the Assistant Secretary would be able to make overall trade-offs between the direct care system and CHAMPUS. Together, these improvements in the ability of the Assistant Secretary to allocate resources flexibly would also serve to support the new management structure proposed under Tricare.

Concerns About the Impact of This Option on Wartime Medical Care. Opponents of reducing the number of active-duty physicians--and more broadly, of providing the Assistant Secretary of Defense for Health Affairs with consolidated control over the Defense Health Program and the military personnel resources--might argue that both actions would jeopardize the capability of the Military Health Services System to meet the wartime mission. Specifically, the services--and the Surgeons General--might also be concerned that the Assistant Secretary would give higher priority to the peacetime mission than the wartime one. That fear, however, may not be warranted since the services will remain involved in the budget preparation process.

In fact, the risk of jeopardizing wartime readiness could be much greater in the absence of consolidated management authority for how medical resources are allocated systemwide. Budgetary pressures on the Department of Defense may force the military departments and the Office of Health Affairs to reduce the total medical budget. Maintaining wartime readiness under these circumstances might be impossible unless the services embrace a joint perspective, as noted by the Inspector General of the Department of Defense in the aftermath of the Persian Gulf War. A 1993 report by the Inspector General faulted the services for not sharing their medical assets in the field.[6] In that same report, the Inspector General also indicated that medical personnel receive insufficient training for wartime given the demands of delivering peacetime medical care. In fact, a more centralized approach to managing the Military Health Services System might very well facilitate more joint planning for wartime to ensure that staff members are adequately trained and medical assets are shared.

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6. Department of Defense, Office of the Inspector General, "Medical Mobilization Planning and Execution" (September 30, 1993).

FAMILY HOUSING

Each of the services plays a significant role in providing on-base communities for military families. That role dates to the early years of the Cold War, when DoD first confronted the task of supporting a peacetime army that included many married enlisted personnel and was subject to frequent tours of duty overseas. Today, roughly one-third of all military families in the United States live in on-base housing. Base commanders are responsible not only for family housing but "for schools, hospitals, police and fire services, child care centers, banks, roads and public works just like a mayor in any American city."[7]

Much has changed since DoD built its housing inventories in the 1950s and 1960s. Today, most military bases are located near large civilian population centers that could readily support additional military families. Reduced numbers of military personnel overseas may permit longer tours of duty in the United States, making it easier for military families--many of which now include a civilian wage earner--to put down roots in local communities.

Military families in the post-Cold War environment still face unique problems that civilian communities may not be prepared to address, such as the stresses imposed on families when the military member is deployed. Yet the most appropriate way to provide support to military families today may be through outreach programs that serve all military families--active and reserve, on-base and off-base--rather than through on-base housing. The services' role in maintaining on-base communities for military families, a role that may draw attention and resources away from their warfighting mission, may not be necessary in the post-Cold War environment.

Moreover, a reduced DoD role could offer significant savings. Cost analyses suggest that the federal government spends 25 percent more on average to provide housing units on military bases than what military members choose to pay when they obtain housing in the private sector. The potential savings from a reduced role are particularly large in the short run, since DoD's stock of housing is aging and requires a substantial capital investment if it is to be maintained.

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7. John W. Shannon, U.S. Army, as quoted in Department of the Army, "Installations: A Strategy of the 21st Century" (unpublished brochure), p. 11.

Barriers to Change in the Military Services' Role

Why do the services maintain their role in family housing despite the potential savings from relying more heavily on housing allowances and private-sector housing? Tradition is one explanation: on-base housing is now an accepted and familiar way of life for military families. Another explanation is that, even though it might be cost-effective to shift DoD resources toward cash housing allowances and away from in-kind housing, such a shift is difficult to make under the current system in which appropriations for cash allowances are separate from those for DoD housing.

Under the current system, funds for constructing, maintaining, and operating family housing are provided in the family housing appropriations for each service. Funds for cash housing allowances, however, are provided in the military personnel appropriations. Management responsibilities are similarly divided. The officials in the services and in the Office of the Secretary of Defense who deal with military installations are responsible for the family housing appropriation, while those who deal with compensation and personnel issues are responsible for the cash housing allowances. Moreover, within the Congressional committees responsible for DoD authorizations and appropriations, the subcommittees that deal with military compensation issues handle housing allowances while the subcommittees that deal with military construction and installations handle DoD family housing.

That division of responsibilities makes it difficult for DoD to consider reducing its role in providing housing. The officials who deal with military compensation and personnel policies are strong advocates for on-base housing. Yet since the current appropriations structure does not permit transfers of resources between on-base housing and cash compensation, they have no incentive to ask whether an additional dollar devoted to on-base housing would contribute as much to the welfare of military families as an additional dollar of cash compensation. Consolidating funding and decisionmaking for allowances and in-kind housing might lead to better decisions and allow the services to maintain a high-quality military force while reducing their role in providing on-base communities.[8]

8. In addition, options that consolidate funding for DoD housing and housing allowances might serve as a preliminary step toward more far-reaching changes in DoD's role, such as adopting a compensation system that provides higher cash compensation to military members but charges market rents for on-base units. For a discussion of this option, see Congressional Budget Office, *Military Family Housing in the United States* (September 1993).

Alternatives to the Current System

Funding for on-base housing and housing allowances could be consolidated either by means of a revolving fund or by means of a single appropriation for family housing benefits. Either approach could lead to greater reliance on private-sector housing and reduced costs. Depending on how it is carried out, however, the revolving-fund approach could result in a larger DoD role and higher costs than would be seen under the Administration's current plan (see Table 4).

The Revolving-Fund Approach. One way to consolidate funding would be to convert family housing to a nonappropriated activity. Under this approach, which is reportedly being examined by the Army, the military services would pay cash housing allowances to all military families living in the United States, including those living in on-base housing.[9] Members living in on-base housing would then pay their base housing office a rent equal to their allowance. The rents (allowances) would be used to pay operating costs and to make contributions to a sinking fund that, subject to Congressional authorizations, could pay to construct new units or to replace aging units on a periodic basis.

Under the revolving-fund approach, rents would be set equal to housing allowances rather than set at the higher, market-clearing level that would be needed to eliminate the current waiting lists for DoD housing. Waiting lists for DoD housing would persist and could result in pressure to provide more DoD housing. The effect of such a revolving fund on DoD's budget and on DoD's role in family housing would depend crucially on whether or not the Congress would continue to appropriate funds for family housing construction.

A Revolving Fund with Supplemental Appropriations for Investment. DoD's costs would rise by roughly $350 million annually if a revolving fund were implemented but appropriated funds for family housing investment remained at their planned level and were used to supplement the sinking fund. That amount reflects the difference between the total rental receipts that DoD would collect (based on current allowance rates) and the cost of operating the existing on-base housing inventory. If that additional $350 million allowed DoD to maintain a larger inventory of housing, federal costs would increase by a greater amount. The reason is that federal costs include not only DoD costs but also the interest payments made when the Treasury borrows to support DoD construction plus the Impact Aid payments made by the Department of Education to local school districts on behalf of students who

9. Paulette Walker, "Can Charging Rent Lead to Better Housing?" *The Army Times*, May 23, 1994, p. 3.

are DoD dependents living in on-base housing. Although school impact payments are also made on behalf of DoD dependents who live off-base, the payments made on behalf of those living on-base are larger. The difference between the two payments is part of the total federal cost of providing on-base housing. Moreover, because the property taxes that support local schools are included in the cost of private-sector housing, it is appropriate to consider Impact Aid when comparing the total cost of DoD housing to the cost of private-sector housing.

TABLE 4. COSTS AND SAVINGS FROM RESTRUCTURING FAMILY HOUSING (In millions of dollars)

Option	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Revolving Fund							
With supplemental appropriations[b]	-400	-350	-350	-350	-350	-1,800	-350
Without supplemental appropriations[c]	250	450	500	500	550	2,250	450
Family Housing Benefits Appropriations[d]	0	0	0	0	0	0	450

SOURCE: Congressional Budget Office based on Department of Defense data.

NOTES: Minus signs indicate costs. Figures in the 1995-1999 period are in current dollars.

a. Long-term savings estimates are based on savings for the federal government. They are expressed in 1995 dollars.

b. Total federal costs are greater because of the cost of Treasury borrowing and the cost of school Impact Aid payments made by the Department of Education.

c. Total federal savings are greater because of Impact Aid. DoD savings could be used to increase housing allowance rates by approximately 8 percent.

d. This option requires a shift of $320 million in budget authority from the Department of Education to DoD. There is no change in total discretionary budget authority.

Such a revolving fund would provide service managers with an incentive to continue to operate and maintain units whenever the cost to DoD was less than the revenue from allowances. That approach is an advantage over the current system where, according to some Army experts, low levels of funding for housing operations could force housing managers to close units even when the cost of operations is less than the cost of paying allowances.

However, such an approach would be likely to encourage the military services to provide government housing even in situations where housing allowances would be less costly. Housing officials within the services are aware that military families who live in the private sector make up the difference between their cash housing allowance and the cost of private-sector housing out of their own pockets. To avoid imposing these costs on service members, housing managers might use the revenue generated by relatively new units with low operating costs to keep older units in operation. Although this approach would reduce the revenue available for the investment sinking fund, DoD could continue to rely on the Congress to appropriate funds for construction. As a result, the sinking fund might be used primarily to pay for projects that the Congress is willing to authorize but for which it would not have appropriated funds.

A Revolving Fund Without Supplemental Appropriations. If no appropriated funds were provided for investment (whether new construction, revitalization, or replacement), DoD savings relative to the fiscal year 1995 budget request would be about $250 million. That savings accrues because the DoD resources devoted to family housing in the United States--operations and investment--exceed the cost of paying housing allowances to the families in those units. Annual DoD savings would rise to approximately $550 million by 1999, assuming that DoD's plans call for a level of investment that is closer to what is required to support its inventory in the long run. Assuming that this decline in resources resulted in a lower DoD inventory, federal savings would be greater.

If a revolving fund without supplemental appropriations were adopted, over the long run, DoD would spend the same amount on both the housing benefits provided to members in on-base housing and those of members in private-sector housing. The number of on-base units would fall, since managers would either have to close aging units in order to obtain funds for investment or reduce investment below planned levels.

Despite the possibility for savings, this approach suffers from some disadvantages. An important one is that, as a practical matter, it could be

difficult to ensure that no appropriations would be made and thus that costs would not rise.

In addition, even though this option might reduce DoD's role in providing on-base housing and lead to a more cost-effective mix of cash and in-kind compensation, it would not necessarily limit on-base housing to locations where that housing is worth its cost to the federal government. Because the revolving fund would not have to cover the cost of Impact Aid payments (which are in the budget of the Department of Education) and federal interest charges, it could still permit too much reliance on DoD housing. For example, although the amortized cost of capital for a DoD unit is approximately $4,600 from a federal perspective, a DoD revolving fund could continue to operate indefinitely provided that its receipts covered operating costs plus average annual construction costs of roughly $2,900 per unit. DoD revolving-fund managers would continue to invest in housing so long as the sinking fund could cover the cost of construction; they would have no incentive to ask whether that construction yielded a return that justified its cost.

The omission of interest costs could be resolved by requiring the revolving fund to reimburse the Treasury for the cost of borrowing funds to cover family housing investment. Although no charge would be levied against existing units, DoD would pay an annual interest charge of roughly $1,700 per year during the service life of a unit constructed or revitalized after the revolving fund was established.

It might not be necessary, however, to include all federal costs in the revolving fund in order to ensure appropriate investment decisions. Omitted costs can be counterbalanced by omitted benefits. The omission of Impact Aid payments from the revolving fund, for example, might be offset by the fact that a revolving fund that is supported by housing allowances would also overlook some of the benefits of DoD housing. Some of the benefits would be overlooked because, as waiting lines for DoD housing suggest, DoD housing is worth more to service members than their housing allowances.

Over the long run, a revolving fund without supplemental appropriations could provide savings without lowering the quality of life for military families. DoD could emphasize cash compensation rather than in-kind housing benefits in its efforts to recruit and retain a high-quality force; savings would stem from the greater cost-effectiveness of cash compensation. In the short run, however, a revolving fund could reduce the quality of life for military families. Not all of the initial savings provided by this option are the result of improved efficiency. It would be possible, however, to protect the quality of life of

military families and make a cost-neutral shift to a revolving fund by raising housing allowances for families in the United States by an amount that offsets these initial savings. In 1999, those savings would equal approximately $550 million, which would permit an 8 percent increase in housing allowances. With such an approach, there would be no immediate budgetary impact from the shift to a revolving fund, although the long-run savings from achieving a more cost-effective mix of cash and in-kind compensation could amount to roughly $450 million annually.

A Family Housing Benefits Appropriation. Under this alternative, all federal funds currently spent on housing benefits for military families (allowances, family housing operations, family housing investment, and the Impact Aid payments made on the behalf of the school-age children of military personnel) would be consolidated into a single appropriation for family housing benefits. The amount of the appropriation for family housing benefits would be reviewed annually within DoD and the Congress based on the average amount requested for family housing benefits for each military family in the United States and overseas. Investment projects would continue to require Congressional authorization.

The initial average level of family housing benefits would be based on current planned funding for family housing, housing allowances, and Impact Aid. This formula would enable the department to maintain its current plan (with current allowance levels and number of family housing units) if it chose to do so. Discretionary budget authority for the federal government as a whole would not change, although the transfer of responsibility for Impact Aid payments would raise DoD budget authority and lower budget authority for the Department of Education.

In their budget requests, the military services would be permitted to shift funds among allowances, housing operations, and housing investment within a fixed average cost per family in order to achieve their preferred mix of housing benefits. To support U.S. family housing operations and to provide funds for U.S. investment, the military services could choose to rely solely on the housing allowances forfeited by military families living in on-base housing. Alternatively, DoD could choose to shift funds within the appropriation for family housing benefits in order to provide more or fewer resources for in-kind housing.

Provided that the services were free to shift resources between cash allowances and DoD housing within a fixed average cost per family, they might be expected to invest in family housing if and only if the value of the investment to service members over its life cycle exceeded the cost of the unit.

Previous Congressional Budget Office analysis suggests that over the long run the costs incurred by the federal government in providing on-base housing exceed the value of that housing to service members.[10] Thus, although the services would be free to pursue their current allocation of housing benefits under this alternative funding system, they would not be likely to do so. Instead, the services' role in providing on-base housing would probably decline under this alternative, since managers would have an incentive to choose the most cost-effective form of compensation.

The immediate savings from more efficient use of resources would go to the benefit of service members (through increased housing allowances) rather than to reduce the DoD budget. The total level of resources devoted to family housing benefits (cash and in-kind) would be the same as it is under the current DoD plan; if the military services found that they could spend those resources in a more cost-effective manner, the quality of life of military families would, on the whole, increase. Over the long run, however, the benefits from DoD's use of a more cost-effective mix of cash and in-kind housing benefits would accrue to taxpayers, since DoD would find it less costly to recruit and retain a high-quality force. These savings could amount to more than $450 million annually.

The time value of money accounts for a significant share of the total resource costs incurred in providing long-lived assets such as family housing. Under this alternative, DoD compensation managers might be expected to take account of that cost when choosing between housing investments that will provide benefits to military families in future years and cash payments that provide immediate benefits. As a result, the impact of this alternative on the number of on-base housing units and the savings resulting from the efficient use of resources could be similar to the impact of a revolving fund without supplemental appropriations and with interest charges.

One disadvantage of this alternative is that providing DoD with the ability to make trade-offs between cash allowances and in-kind housing requires a Congressional appropriation process that focuses on average cost per military family. Although that is arguably a better way to review and control housing benefits, it would require some reallocation of responsibilities within the Congress. The same subcommittees would have to be responsible for both allowances and family housing. A similar consolidation of responsibilities would be necessary within the military services and the Office of the Secretary of Defense. In addition, responsibility for authorizing the Impact Aid payments made on the behalf of DoD dependents would be transferred from

10. Congressional Budget Office, *Military Family Housing in the United States*, p. 48.

the Congressional committees that deal with education issues to the defense committees. Responsibility for budgeting for those payments would shift from the Department of Education to the Department of Defense.

However, the incentives DoD managers would face also have potential weaknesses. For example, because investment funds would not be fenced in a separate account, short-sighted DoD managers might not invest in housing even when it would be justified by the future benefits. That concern may not be valid, however, since the current system in which investment is fenced appears to have resulted over time in too large a DoD role in family housing. Although the impact of any reduction in housing allowances would be spread among all military families, the benefits from investment projects are concentrated in specific locations and can generate strong local support. That support could help to protect housing investment.

CHAPTER III

SUPPORT FOR DoD'S WEAPON SYSTEMS

The United States relies heavily on sophisticated weapons to provide its military with a qualitative advantage over potential opponents. The Department of Defense has sizable stocks of these weapons, including nearly 400 ships, almost 2,700 deployable fighter aircraft, and about 16,000 tanks. Countless missiles, torpedoes, shells, mines, and the like are also bought and maintained to provide combat punch for major weapon systems. In addition, each of the services and several defense agencies employ significant numbers of personnel to investigate new technologies and develop and buy new weapons. Maintenance personnel in a number of depots and at bases worldwide perform daily and periodic maintenance on these weapons to ensure they are available should U.S. defense needs call on their services. This chapter discusses consolidating portions of these acquisition and maintenance work forces.

CONSOLIDATING THE ACQUISITION WORK FORCE

Consolidating and reducing the size of the acquisition work force has saved billions of dollars in recent years. Although DoD has achieved such savings, cutbacks to the acquisition work force have occurred mostly as a part of overall reductions in defense spending that have taken place in recent years. The Administration has introduced several initiatives aimed at consolidating and streamlining the acquisition process in the Department of Defense that could further reduce the size of the work force. In addition, the Congress recently passed the Federal Acquisition Streamlining Act of 1994 aimed at streamlining federal procurement as a whole, which could cut the size of the defense acquisition work force. This option goes beyond DoD's current reform efforts or those included in recent legislation. It establishes a single defense acquisition agency and could save several billion dollars beyond the acquisition savings anticipated by the Administration during the next five years.

Background

A consistent focus of defense reform during the past two decades has been creating a more efficient defense acquisition work force, but over the years the effort has achieved only modest success. The Blue Ribbon Defense Panel

report of July 1970 complained of too many layers of military and civilian staffs producing "excessive paperwork, coordination, delay, duplication and unnecessary expense." In 1986, the President's Blue Ribbon Commission on Defense (the Packard Commission) concluded that too many acquisition personnel--burdened by too many laws, regulations, and layers of review--resulted in a cumbersome and inefficient process. The current Administration created the Office of the Deputy Under Secretary of Defense for Acquisition Reform to address the many bureaucratic and procedural obstacles that continue to burden the procurement process. Although the Administration plans to cut back the size of the acquisition work force as part of its overall force reductions, it does not currently plan to seek efficiencies by undertaking a major reorganization of the acquisition bureaucracy.

Defense Acquisition Organization

The defense acquisition community consists of 10 major organizations and includes small components in a number of agencies. About 450,000 military and civilian workers conduct and manage research, development, production, and support of weapons and equipment within the department. Within the Office of the Secretary of Defense, the Under Secretary of Defense for Acquisition manages the overall acquisition process and serves as the Chairman of the Defense Acquisition Board, which oversees the development and production of DoD's major weapon systems. Within the service secretariats, a Service Acquisition Executive directs each of the services' acquisition programs, and the Vice Chairman of the Joint Chiefs of Staff oversees issues on joint service acquisition.

DoD's major weapon-buying commands include the Army Materiel Command, the Naval Air Systems Command, the Naval Sea Systems Command, the Naval Space and Warfare Systems Command, the Air Force Materiel Command, and the Defense Logistics Agency. The Office of Naval Research, the Army Materiel Command, and the Air Force Materiel Command conduct and manage the services' research and development work in addition to the work managed by DoD's Advanced Research Projects Agency. Other purchasing and support agencies include the Army's Information Systems Command and the Naval Supply Systems Command.

Although numerous internal reorganizations have occurred within the services' acquisition commands over the years, DoD has not undertaken a comprehensive overhaul of the command structure itself. The only restructuring of major acquisition commands occurred in 1992 when the Air Force merged three major commands--the Air Force Logistics Command, the Air

Force Systems Command, and the Air Force Communications Command--into the Air Force Materiel Command. In 1988, the former major commands employed almost 140,000 military and civilian personnel; the Air Force Materiel Command now employs about 93,000--about 34 percent less than under the old organizational scheme. Estimating the effects on employment of the merger is difficult, since the consolidation took place during a period of major downsizing within DoD. Nevertheless, the reorganization demonstrates the extent to which consolidation can occur while maintaining functional performance. Army and Navy buying commands, however, have remained essentially unchanged during the recent era of acquisition reform.

Savings Through Reforming the Defense Acquisition Process

For at least the past 25 years, defense acquisition has been characterized by major increases in program costs, significant schedule delays, failure to meet operational requirements, and a host of management problems including waste, fraud, and abuse. Nearly every Administration in the past three decades has undertaken steps to reform the acquisition process in order to reduce costs and ensure timely delivery of effective weapons and equipment. The current Administration has proposed a number of initiatives to simplify and streamline the acquisition process that, if carried out, could produce significant savings and efficiencies. The Administration estimates that various acquisition reforms could save billions of dollars.

In general, the Administration's reform program seeks to restructure the acquisition organization and process so that "the fewest number of people are involved in a given process, and the need for reconciliation or coordination is minimized."[1] Various policy reforms are designed to achieve these objectives. For example, DoD seeks to establish performance-based requirements minimizing the need for military specifications unique to DoD. A preference for purchasing commercial items should contribute to cost and schedule efficiencies. DoD has recently completed a comprehensive review of military specifications (milspecs) and has directed that purchasing commercial items replace buying items built to military specifications except in special cases.

In addition, DoD seeks to limit the oversight, testing, and inspection of purchased items so that such functions are inobtrusive and contribute to the value of the finished product. Similarly, the department intends to reduce

1. Blue Ribbon Defense Panel, *Report to the President and the Secretary of Defense on the Department of Defense* (July 1970), p. 1.

reporting requirements to the minimum number necessary to ensure compliance with policy. Data collection would be limited to data that already exist and can be collected without undue additional administrative burdens. Moreover, DoD has proposed simplified contracting procedures, which are expected to save significant time and accelerate the acquisition process.

Those and other proposed reforms serve as the foundation for DoD's Defense Acquisition Pilot Program, authorized by the Congress in 1991. The purpose of the program is to determine the potential effectiveness of proposed reforms in acquisition and waivers of certain statutes and regulatory requirements. The Congress has yet to grant final approval of the package of seven weapons programs that the department proposed in 1993 to be Acquisition Pilot Programs.

Acquisition Work Load and the Size of the Work Force

Since the peak years of defense spending in the mid-1980s, the acquisition work load has been decreasing according to a variety of measures, but it has not been matched by cutbacks in the defense acquisition work force. One measure of the acquisition work load is total spending on research and development, production, and purchases for operations and maintenance. Since 1988, acquisition spending, by this definition, declined by almost 28 percent (outlays in 1995 dollars); the acquisition work force, however, declined by only 23 percent.[2]

During the 1988-1994 period, the acquisition work force--civilian and military--shrank by about 134,000 workers (see Table 5). These cutbacks were not levied specifically on the acquisition work force; rather, they were part of the overall defense drawdown that had occurred during the past five years. (Overall, DoD employment fell by about 21 percent between 1988 and 1994.) Reducing the acquisition work force between 1988 and 1994 will save about $5.5 billion in 1995. If DoD had cut back the acquisition work force by the same percentage as the services and defense agencies reduced acquisition spending--about 28 percent--roughly 29,000 additional jobs would have been cut, providing more than $1 billion in savings.

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2. Some defense data suggest that the size of the acquisition work force is generally related to the level of acquisition spending. A recent analysis by the Office of Federal Procurement Policy found that increases in the number of defense contracting personnel coincided with major increases in DoD's procurement spending during the 1980s. In addition, DoD data show that the acquisition work force steadily increased during the 1980s until June 1988, when DoD outlays for procurement began to decline.

Other indicators, such as the quantity of weapons being purchased and the number of systems being managed, also suggest that the acquisition work load is decreasing. The services are purchasing considerably fewer weapons than in 1990. This year, DoD requested the Congress to authorize purchasing 6 new ships, down from 20 ships authorized five years ago. This year's budget request for 127 aircraft is down from 511 aircraft authorized in 1990. Construction of tanks has been discontinued altogether, and DoD has cut back the purchase of strategic missiles from 175 missiles in 1990 to 18

TABLE 5. COMPARISON BETWEEN DEFENSE SPENDING AND ACQUISITION EMPLOYMENT, 1988 AND 1994

	1988	1994	Percentage Change
In Constant 1995 Dollars			
Total Defense Outlays[a]	352.6	273.4	-22
Acquisition Outlays[b]	197.3	143.0	-28
By Number of Employees			
Total Acquisition Employment	582,100	448,400	-23
Army	128,900	85,800	-33
Navy	238,300	187,900	-21
Air Force	139,600	92,700	-34
Defense Logistics Agency	53,900	60,400	12
Others	21,500	21,600	0

SOURCE: Congressional Budget Office.

a. Defense outlays for Department of Defense spending only.

b. Acquisition outlays include spending for procurement, research and development, and other purchases for operations and maintenance.

requested for 1995. In addition, fewer major weapon programs are currently in the acquisition development pipeline than in the past. In 1991, the Defense Acquisition Board (DAB) managed (or delegated to the services) 131 major weapon programs; this year, the DAB oversees only 93 major programs. These sorts of reductions in acquisition activity are reflected, at least in part, by a 10 percent drop in the number of contract actions since 1990.

Reductions in the acquisition work force have not been evenly distributed among the services, suggesting that further savings could be achieved through more equitable cutbacks among the military services. For example, although the Army cut acquisition spending by about 45 percent during the 1988-1994 period, it reduced its acquisition work force by only about a third. The Navy cut acquisition spending by about 34 percent, but reduced the number of acquisition positions by only about a fifth. The Air Force cut acquisition spending and its associated work force by about a third.

These reductions to the services' work forces are approximate since many workers were consolidated and transferred from their service assignments to similar functions in defense organizations such as the Defense Logistics Agency (DLA). While DoD was cutting back the services' work forces, the number of acquisition workers in DLA and other DoD organizations actually increased modestly, by about 6,000 positions during the 1988-1994 period.

Potential for Efficiencies

Aside from the potential for savings on the basis of equitable and proportional cuts, historical evidence indicates that consolidation can generate efficiencies and savings. For example, bringing the logistics support functions of the various services into the Defense Logistics Agency in 1961 reduced the number of jobs by 13 percent. Consolidating the mapping, charting, and geodesy functions of the three services into the Defense Mapping Agency in 1970 also achieved efficiencies. More recently, merging the Air Force Logistics Command and the Air Force Systems Command into the Air Force Materiel Command helped to reduce the size of the work force of these components by more than 33 percent.

Some Members of Congress support the idea of a single buying agency for all the services and defense agencies. Senator William Roth, for example, introduced legislation in 1988 to create a DoD Defense Acquisition Agency, and recently proposed an amendment to the Federal Acquisition Streamlining Act to overhaul the traditional DoD acquisition structure. The Senator estimated that his proposed amendment could reduce the number of

acquisition management personnel positions by 25 percent to 30 percent by reducing duplicative headquarters staffs.

The Congress could consider the potential to achieve significant savings in light of the various trends in defense acquisition described above. Management reforms such as simplifying the acquisition process will be carried out over the next several years. Acquisition spending and other measures of the acquisition work load are projected to continue to decline during the next five years. Indeed, according to DoD estimates, outlays for acquisition will decrease by about 10 percent between 1994 and 1999.

If cutbacks to the work force reflected successful reform and consolidation of the acquisition process, the acquisition work force could absorb a major downsizing that would approach the objectives set out by some Members of Congress. For instance, if reorganization reduced the acquisition work force by, say, about 10 percent beyond Administration plans, DoD could save about $3 billion over the next five years (see Table 6).

Advantages and Disadvantages of Consolidation

In general, consolidating all defense acquisition functions into a single agency could promote savings and efficiencies by establishing a management structure

TABLE 6. SAVINGS FROM REDUCING THE ACQUISITION WORK FORCE BY 10 PERCENT (In billions of dollars)

	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Budget Authority	0	b	0.4	0.9	1.5	2.8	2.1

SOURCE: Congressional Budget Office.

NOTE: Figures in the 1995-1999 period are in current dollars.

a. Annual savings after the option has been fully implemented, expressed in 1995 dollars.

b. Less than $50 million.

conducive to cross-service purchasing of weapons and equipment. For many years, each service developed its own means to meet similar or identical military requirements and justified the weapons it proposed to buy on the basis of its unique needs and abilities. During the defense buildup of the 1980s when acquisition dollars were plentiful, the services pressed for and received funding for many dozens of new weapon systems. Few requests to start new programs were denied, and virtually no programs were canceled. As a result, a plethora of systems were developed and built to fulfill requirements in given mission areas. A good illustration of this problem is that the services have at least 11 major weapon systems in current inventories designed to meet antiarmor requirements.

Military requirements and budgets have, however, changed significantly; a streamlined single acquisition agency could adequately meet the changing acquisition needs of the post-Cold War era. Fewer new military requirements demand responses comparable to those that characterized the arms race during the past four decades. Equally important, fewer resources are now available or planned to meet even reduced needs. The Bottom-Up Review of September 1993 outlined the department's plan to reduce the size of the force structure significantly by 1999. Fewer divisions, ships, aircraft, and missiles will reduce the acquisition work load considerably below the peak years of the mid-1980s. In addition, the department recently undertook a comprehensive review of service roles and missions in order to eliminate duplication and reduce functional overlap among the services. Much discussion in this review concerns assigning certain military missions to a single service; other discussion focuses on developing weapons for joint service use. These initiatives--the Bottom-Up Review and the review of roles and missions--clearly indicate that the overall size of the acquisition work load will be reduced and rationalized during the decade to come. A unified acquisition agency could be an appropriate response to these changes in acquisitions.

Yet costs and risks associated with consolidating acquisition functions could outweigh the potential benefits, especially in the near term. The initial costs of reorganization and relocation could be significant depending on the degree and pace of centralization undertaken. As a matter of reference, according to DoD estimates, the relocations and consolidations from recent rounds of base closures and realignments will only begin to achieve net savings three years after the process has begun. The up-front costs of relocation would be an added burden during a period in which high deficits have severely constrained budgets.

At the outset of consolidation, it may be necessary to establish a new layer of oversight to manage the revised acquisition and reorganization

process. Such an added layer of bureaucracy could increase costs in the short term and delay savings and efficiencies.

Although reorganization could reduce the size of the work force, a single acquisition agency may not be needed in view of the separate characteristics of the services' purchasing needs. The services perform unique missions that justify separate organizational components. Even a single acquisition agency would require components dedicated to developing and procuring land combat vehicles, ships, and aircraft. To the extent that redundancy exists in the current organizational scheme, consolidations could occur without requiring a complete overhaul of the acquisition bureaucracy.

Moreover, reorganization may not be necessary to ensure greater cooperation among services. Management mechanisms such as the Joint Requirements Oversight Council currently exist within the department to encourage development and procurement of weapon systems by joint effort among the services. Provisions of the department's instructions and regulations for acquisition require that the cost-effectiveness of a weapon be compared with other systems performing the same function before the Defense Acquisition Board makes a decision to proceed.

CONSOLIDATING MAINTENANCE DEPOTS

How should DoD maintain its equipment? That is the subject of considerable debate within the Pentagon and the Congress. In fiscal year 1993, DoD spent $15 billion for depot maintenance.[3] About 70 percent of this work was performed at government-owned and operated depots, shipyards, and logistics centers; the remaining 30 percent was contracted out to private firms. Today the services manage a total of 34 major public depots (a major depot is one with more than 400 employees). Although 10 of the 34 are scheduled to close as a result of base realignment and closure decisions, reductions in force structure and in operating tempos will still leave DoD with excess capacity within its government-run depots.

The Administration hopes to conduct depot maintenance more effectively by transferring work to the private sector and closing additional government-owned facilities. But with the possible exception of fixed-wing aircraft, the services will continue to operate separate depots to maintain their weapon systems.

3. This figure includes work load for depot maintenance conducted by government-owned depots and private contractors as well as contractor logistics support and interim contractor support.

Background

As structured today, the military departments manage their own depots as part of their responsibility to support their forces. Government-run depots exist, in part, to assure that DoD will always have a "ready and controlled source" of skilled workers, equipment, and facilities dedicated to it in the event of conflict.[4] Since each service operates a broad mix (in type and vintage) of weapon systems, public depots work on a wide variety of equipment.

During the Cold War, U.S. military planners prepared for a protracted conflict with the Soviet Union. The structure of government depots was sized accordingly. Depots had larger capacities not only to handle the larger force structure of the Cold War in peacetime, but also so that they could repair damaged aircraft, ships, and ground equipment that would be sent back to the United States during a conflict. Today, military planners are preparing to fight in major regional conflicts similar in scope and size to Operation Desert Storm, which are more likely to be of short duration. Based on U.S. experience during that conflict, the need for government depots would surge in the early stages of a crisis in order to prepare weapon systems, spare parts, and repair kits for mobilization, but few weapon systems would be returned to the United States for repairs before the conflict ended.

Over time, each service has developed a distinct approach to supporting its equipment, even when that equipment is similar. For example, the Navy has relied on inspections to determine when repairs are needed, whereas the Air Force sends its planes to depot for inspection and overhaul on a regularly scheduled basis. Those differences in approach may complicate joint operations.

Because depots today are dedicated primarily to a single service, workers are attuned to the effects of their service's operating environment. For example, the Navy's carrier-based aircraft age differently from land-based aircraft. Navy officials argue that separate ownership of facilities is needed to retain the most responsive depot maintenance for that service's specific operational needs. In addition, they contend that specialists in naval aircraft maintenance provide important information to the people who develop and build the next generation of equipment.

However, separate service depots have led to redundant capabilities that may be unaffordable during this period of lower defense spending, particularly

4. 10 U.S.C. 2464, 98 Stat. 2514.

if they are retained at the expense of other activities that enhance readiness or of force structure. Today, the Navy and Air Force operate separate aviation depots. The majority of depot maintenance involves repairs to components (such as engines, communications equipment, and electronics) rather than to their larger platforms, and the services have duplicate capabilities to maintain similar components. Alternatives to separate service depots exist; for example, Navy and Air Force maintenance technicians might operate out of a single facility, or one service might act as a lead agent for another's work load. And, with time, depot technicians might learn to look for the types of damage more common to each service's equipment.

One justification for separate service depots offered by some officials is current law. The requirement that "DoD activities" provide a "ready and controlled source of repair" is often interpreted to mean that each service is responsible for ensuring the readiness and sustainability of its own equipment. The Congress can, of course, amend or clarify that law if it sees fit. But this common interpretation stems from concerns that a service would not be able to control the priority or quality of repairs to its equipment if it relied on another service's depots.

How Much Excess Capacity Exists Among Government Depots?

Conventional wisdom suggests that defense infrastructure has not been cut as dramatically as has force structure. In terms of the number of government maintenance depots, that impression holds true today since none of the 10 major depots identified for closure under previous BRAC rounds has as yet been entirely closed.[5] In terms of personnel, DoD has reduced staff at public depots over the 1990-1994 period by a percentage comparable to cuts made in DoD's inventories of aircraft and ships. It has also taken other measures to reduce capacity, such as laying away excess equipment. However, closing depots may provide a greater opportunity for long-term savings, particularly if those depots are self-contained bases or part of a larger multipurpose base that is itself identified for closure.

DoD currently plans to close the 10 depots identified by previous BRAC rounds by the end of fiscal year 1996, at which point the number of depots

5. Since 1988, DoD has closed one minor installation (Pueblo, Colorado, Army Depot) and two facilities overseas (an Army depot in Mainz, Germany, and a facility at Royal Air Force Base Kemble, United Kingdom, that performed depot maintenance for the U.S. Air Force). A major Army depot at Lexington-Bluegrass, Kentucky, is scheduled to close by September 1994, and all of its work load has been transferred to other depots. Although the Army depot in Sacramento, California, is not scheduled to close officially until October 1995, most of its maintenance work load has already been transferred to other depots.

will have declined by about 30 percent. Even after these closings, however, further declines in force structure and operating tempos will leave the services with excess capacity. If additional depots are closed, costs would probably outweigh benefits in the near term. But closings could free up significant amounts of funding beginning early in the next decade.

Capacity is a difficult concept to quantify since it encompasses many characteristics: the size of a facility, the number and type of pieces of equipment within it, the skill level of its workers, and the number of hours they work. Also, some depots have rare or unique features that make them critical to retain--such as large hangars or special facilities to repair nuclear propulsion systems. Despite these complicating factors, it is useful to consider a rough measure of capacity (see Table 7 for estimates of excess capacity using just one metric: millions of direct labor hours, or DLHs).

Direct labor hours represent the number of physical workstations at a facility and the number of productive hours associated with each position in a one-shift, eight-hour day, five-day workweek. That measure may underestimate actual capability, especially in emergency situations, since more capacity is available for a surge in production by adding additional shifts or workdays.

According to the data in Table 7, even after planned BRAC closures, government-operated depots will still have more than 22 million DLHs in excess capacity by 1997. On a service-by-service basis, Army depots, naval shipyards, and Air Force logistics centers account for the majority of that excess. Note, however, that the Congressional Budget Office has not independently evaluated the services' capacity and work-load projections on which the data are based.

Administration Plans May Reduce the Need for Government Depot Capacity

Recent decisions by the Administration could substantially reduce the number and size of government depots needed. Deputy Defense Secretary John Deutch has directed the services to reevaluate what DoD needs to retain as "core" capability in public depots. Under guidelines from the Office of the Secretary of Defense, core capability represents the minimum facilities, equipment, and skilled personnel needed to ensure that a dedicated source of repair will be available in the event of conflict. Associated with core capability is a work load--a mix of depot maintenance repair work that exercises those capabilities needed to support mission-essential equipment in the regional contingencies for which DoD is preparing.

The services are now in the process of evaluating how much work load they need to maintain core capability for the planning scenarios--two nearly simultaneous contingencies in Southwest Asia and on the Korean Peninsula. Early service calculations suggest, however, that government maintenance depots may only need to perform 40 percent to 50 percent of total current

TABLE 7. EXCESS CAPACITY AMONG MAJOR GOVERNMENT-RUN MAINTENANCE DEPOTS

	Number of Depots		Utilization (Percent)		Excess Capacity (Millions of direct labor hours)		Range of Depot Capacities in 1997 (Millions of direct labor hours)	
	1994	1997	1994	1997	1994	1997	Low	High
Army Depots[a]	8	5	57	72	8.7	5.2	1.9	4.7
Naval Aviation Depots	6	3	74	103	4.9	-0.3	3.1	3.5
Naval Shipyards	8	5	75	76	17.4	10.3	4.6	14.2
Other Major Naval Centers	3	3	83	84	0.9	0.8	0.7	2.4
Marine Corps Logistics Bases	2	2	125	116	-0.6	-0.4	1.2	1.2
Air Force Air Logistics Centers	5	5	86	83	5.8	6.7	7.0	9.2
Other Air Force Centers[b]	2	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	34	24	n.a.	n.a.	37.1	22.3	0.7	14.2

SOURCE: Congressional Budget Office based on data from the Defense Science Board and the military services.

NOTE: n.a. = not applicable. Values for 1997 exclude all depots identified for closure to date.

a. Lexington-Bluegrass and Sacramento Army depots are included in the number of depots for 1994, since they are not yet officially closed. But their work loads are negligible and they therefore are excluded from 1994 values for Army utilization and excess capacity.

b. Values on utilization and excess capacity are not applicable because the Air Force is privatizing one of these facilities, the Aerospace Guidance and Metrology Center in Newark, Ohio; the other, the Aerospace Maintenance and Regeneration Center in Tucson, Arizona, is primarily an aircraft storage facility.

peacetime depot work loads, as compared with the current 70 percent. Under this core policy, private industry could perform the remainder.

The Administration's new policy, however, may contradict existing law for some of the services. Since 1991, the Congress has restricted the amount of maintenance that the private sector can perform. The National Defense Authorization Act currently states that the services may not contract out more than 40 percent of their depot work load for performance by nonfederal employees. The House of Representatives' defense authorization bill for 1995 would further increase the share performed by government depots by restricting private contractors to 40 percent of all repair funds. That share would include the value of private-sector contracts for all maintenance and repair services above the unit level, interim contractor support, contract logistics support, and the value of materials purchased by public depots for their maintenance work.

Some Members of Congress are concerned that DoD may give up too much capability under its new core policy. The process used to quantify the work load needed to keep core capability is not very clear, and it may therefore limit the Congress's oversight role. Some Members would prefer that DoD leave decisions about excess capacity to the BRAC process and rely on interservicing among public depots and, to encourage more cost control, competitions for depot work load between the public and private sector. Competition, some argue, might also be used between public depots to identify which facilities are least efficient.

Nevertheless, there is no consensus about the track record of competitions for maintenance work loads. The Air Force believes that it has achieved considerable savings by offering some of its work loads for competition between public depots and private companies as well as through competitions involving government depots run by other services. But the other services have questioned these findings. A recent Defense Science Board Task Force on Depot Maintenance Management (half of which consisted of representatives from the private sector) concluded that competitions cannot be run fairly; too many differences between public and private methods of accounting make it difficult to evaluate competitive bids. Deputy Secretary Deutch agreed with this conclusion and has discontinued public/private competitions. He has also discontinued public/public competitions, noting the Task Force's observation that they are expensive to run. Deutch argues that it may be preferable simply to promote a larger degree of cooperation between service depots, but he leaves open the possibility of reopening public/public competition in the future. Since the greatest opportunity for consolidation in

the services lies in repairs for fixed-wing aviation, Deutch specifically asked the Navy and Air Force to develop a plan for joint operations.

However, given that each of the services has kept separate repair facilities, encouraging cooperation has not been a simple matter. In recent years, the Office of the Secretary of Defense has directed the services to develop plans to conduct depot maintenance more cost effectively. One way has been for one service to perform another's repairs when they involve common equipment or components. For example, Air Force and Navy versions of the Blackhawk helicopter are now being sent to the Corpus Christi, Texas, Army Depot. The services have also relied on each other to a greater degree for engine repairs, and DoD plans to consolidate all tactical missile maintenance at the Letterkenny, Pennsylvania, Army Depot.

Although the services are consulting each other more about similar work loads, the share of maintenance performed by one service for another remains small: just $430 million in fiscal year 1992. According to a 1993 study on depot consolidation by the Joint Chiefs of Staff, the services could perform much more of each others' maintenance on similar weapon system components. The services may also be particularly reluctant to send more of their work load to another's facility since such actions might make them vulnerable to the next round of BRAC recommendations for closure.

How, then, should the government depot system be managed? In its study, the JCS recommended that DoD establish a Joint Depot Maintenance Command. It concluded that a unified management structure would result in the greatest opportunity for efficiency. However, then Secretary of Defense Les Aspin did not adopt this policy, perhaps in part because such a major management change was unlikely to receive support from the services and the Congress. That wariness was warranted: in last year's defense authorization act, the Congress explicitly prohibited DoD from consolidating the management of depot work load under a single defensewide entity during fiscal year 1994.

The recent Defense Science Board Task Force on Depot Maintenance Management recommended continuing separate management of service depots, but would strengthen the Defense Depot Maintenance Council's (DDMC's) role in coordinating depot work-load assignments among the services and in reviewing capital investment decisions.[6] But without explicit authority over depot resources--that is, control over personnel levels and

6. The Defense Depot Maintenance Council is an interservice management structure established in 1990, and its responsibilities have included implementing Defense Management Report decisions. It is chaired by the Deputy Under Secretary of Defense for Logistics, and its members include the Joint Logistics Commanders.

funding decisions--it is unclear how the DDMC will be able to integrate depot operations.

Consolidating Maintenance Depots Among Services

The option explored in this paper, consolidating maintenance depots among the services, would establish a Joint Depot Maintenance Command or a Defense Maintenance Agency that would manage existing facilities, assign similar work loads to single "Center of Excellence" depots, and make recommendations to the Base Realignment and Closure Commission about which facilities to close.

Taking into account service projections of future work load, the option would close seven depots in addition to those already identified by previous BRAC decisions. Work on aircraft and their components would be consolidated among six depots instead of the current nine. Those would include the existing Army and Navy rotary-wing facilities (since neither one has as yet demonstrated the capacity to absorb the work load of the other), along with four fixed-wing aviation depots (selected from among the remaining naval aviation depots and Air Force air logistics centers). Maintenance on ground vehicles and equipment currently performed at Army, Air Force, and Marine Corps facilities would be consolidated among four depots. This option would also close two additional naval shipyards.

Little empirical evidence exists as to whether consolidating depots among services would result in more savings than simply reducing excess capacity within each service. Simple calculations based on capacity and work load as measured in direct labor hours suggest that if a central management agency assigns aircraft maintenance work loads for all services, it may be able to close three fixed-wing aviation depots. Alternatively, two depots could be closed if each service were to reduce its capacity individually. According to these calculations, assigning work loads for ground equipment centrally would not result in enough excess capacity to justify closing additional depots.

The magnitude of savings from consolidation depends on whether a receiving depot would be able to administer its new work load with lower indirect expenses than two separate facilities, or whether repairs on two similar types of commodities could be performed with lower direct labor and material costs when combined. Few analyses have examined these issues in much detail. One is a RAND Issue Paper that uses DoD supply depots, real property maintenance agencies, and printing operations as examples. It argues that consolidation may present net costs since it may require more

layers of management and higher transportation costs to perform repairs at a few larger depots. Two studies by the Center for Naval Analyses found evidence of economies in combining naval aviation and shipyard work loads, respectively, but it is unclear whether these results can be generalized to combining the work loads of all services. In their 1993 study, the Joint Chiefs of Staff recognized the high degree of uncertainty about the effects of consolidation by estimating cumulative net savings over 10 years ranging from $1.8 billion to $9.6 billion (in 1995 dollars) as a result of joint operations. The JCS study found that most of those savings accrued in the latter half of its 10-year estimation period.

Savings from this option were estimated under the assumption that the indirect costs of remaining depots can be spread out over a larger business base. Specifically, the Congressional Budget Office assumed that 30 percent of all indirect workers at the closing depot were separated from the work force. (Indirect workers are those employees often categorized as general and administrative or overhead whose hours cannot be assigned to a specific work order.) That assumption is similar to the one the JCS used for its low estimate of savings from consolidation. In addition, CBO assumed that the depots to which the work load is transferred would only have 50 percent of the other indirect costs associated with that work load (such as utility expenses) compared with the facilities that are closed.

If this option is put in place, CBO estimates that costs would outweigh savings by $490 million (in current-dollar budget authority) during the 1995-1999 period, since DoD would face up-front costs associated with retirements, work-force separations, moving of workers and equipment, and environmental cleanup at depot sites (see Table 8). But over the 2000-2004 period, savings from closing depots under this option would be considerable: approximately $2 billion in budget authority (in 1995 dollars), or about $400 million per year. Other estimates have suggested that depots with several thousand employees each have fixed overhead costs ranging from $50 million to $100 million per year.[7] Using this range, eliminating seven depots would imply long-run savings of roughly $350 million to $700 million per year. Much of these net savings could result under intraservice consolidations as well.

7. Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Depot Maintenance Management* (April 1994), p. 17.

Arguments Against Joint Management of Government Depots

Opponents of this option argue that it is politically and bureaucratically impractical. Given the reluctance of the services to cede control and Congressional constraints on depot operations, DoD is unlikely to have the authority to make such a dramatic change in management structure.

Service representatives argue that a centralized depot structure would be less capable than what exists today. Separate control of public depots provides a close link between the users and suppliers of maintenance services. Duplicate capabilities may exist. But according to this line of argument, some overlap may be necessary to ensure that a ready and flexible source of repair is available, dedicated to each service and knowledgeable about its specific operational needs.

Critics also point to the degree of uncertainty surrounding the magnitude of savings under this option. If economies of scope and scale exist among service work loads, long-term net savings to DoD could be considerable. But some costs for depot operations, such as transportation and administration expenses, could rise. With the exception of aviation depots, consolidation among the services may not necessarily lead to the closing of more depots.

TABLE 8. COSTS AND SAVINGS FROM CONSOLIDATING DEPOTS (In millions of dollars)

	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Budget Authority[b]	0	-410	-350	-40	310	-490	400

SOURCE: Congressional Budget Office.

NOTE: Minus signs indicate costs. Figures in the 1995-1999 period are in current dollars.

a. Average annual savings for the years 2000 and beyond, expressed in 1995 dollars.

b. The amounts represent savings net of closure costs for each year. All amounts are rounded to the nearest $10 million.

Potential Benefits of Joint Depot Operations

Advocates of joint depot operations argue that both intraservice and interservice consolidations would be more likely under a centralized management structure. Given the budget pressures that it faces, DoD must take dramatic steps to promote efficiency among its support activities. If economies of scale and scope exist in aviation and ground equipment repairs, significant savings may be available over the long term to fund other activities that improve the readiness of U.S. forces or modernize their equipment. Under the current system of separate management, the services do not have a strong track record of consolidating similar work loads. A Joint Depot Maintenance Command or Depot Management Agency may offer the best opportunity for dramatic changes among government-owned depots.

Moreover, the services might learn from each other's experiences. For example, as it holds on to its airframes longer, the Navy is planning to take a more preventive approach and might learn from the Air Force's strategy of regularly scheduled maintenance. Furthermore, the Air Force may find that, in the current budget environment, the Navy's more austere approach of inspecting and repairing only as needed has a role for certain types of equipment.

DoD may be better able to make choices about how maintenance resources should be spent with a centralized management structure. By pooling information uncovered in equipment inspections, DoD may gain a better sense of the readiness and reliability of each service's weapon systems. Doing so might, in turn, provide DoD with important information for designing the next generation of weapon systems. Finally, combining service depot operations may also help DoD make better choices about which facilities have the greatest need for new equipment and capital improvements.

CHAPTER IV

STREAMLINE THE INTELLIGENCE COMMUNITY

Press reports and other unofficial sources consistently place the budget for the U.S. intelligence community at roughly $28 billion. Assuming that such estimates are correct, intelligence spending constitutes more than 10 percent of the Department of Defense budget (where almost all of it is hidden). Reflecting their substantial budgetary magnitude, intelligence activities are critical--in determining not only how well the U.S. military performs in wartime, but also when and if it will engage in combat.

Some effort to improve the functioning of the more than 20 intelligence agencies has occurred in recent years, notably in the creation of Joint Intelligence Centers at the level of the military commands. In addition, the intelligence budget, though escaping the early rounds of defense reductions relatively intact, is now taking cuts. According to unclassified accounts, today's $28 billion figure reflects a real decline since 1990 of some $5 billion in the annual intelligence budget. Moreover, further declines in the intelligence budget seem likely to occur in the rest of the decade--as evidenced by existing plans to reduce personnel by about 23 percent in comparison with the peak levels attained around 1990 (those reductions are now roughly halfway complete). Thus, the intelligence community may already be undergoing sufficient reorganization and streamlining--especially given the daunting tasks it continues to face in attempting to monitor and understand terrorism, nuclear proliferation, and other potential threats to U.S. security.

But a number of observers, including Senator Sam Nunn, Chairman of the Senate Committee on Armed Services, remain interested in the possibility that greater efficiencies--and real savings--may result from further changes in intelligence activities and organizations. This chapter, building on the ideas of lawmakers with expertise acquired on Congressional committees that oversee intelligence, discusses several such possible changes.

One approach to achieving such economies would rely heavily on organizational changes, perhaps like those discussed in the McCurdy, Boren, and Moynihan bills.[1] Another would remain agnostic on such organizational matters. However, it would scale back resources devoted to intelligence on the assumption that some of its missions--such as many of those focusing on

1. These bills are, respectively, H.R. 4165, S. 2198, and S. 1682.

economic, environmental, and antinarcotics matters--are not central to U.S. security and can be handled at least as effectively through other parts of the U.S. government or the private sector.

Either way, the Congressional Budget Office has assumed that another 5 percent cut in spending--making for a total reduction of perhaps 25 percent since 1990, and translating into at least $1 billion a year--could eventually be achieved by the measures discussed in this chapter. But most of the cuts in spending would not occur until the next decade, after the current round of cuts has been completed.

The principal elements of the intelligence community include several major independent or quasi-independent organizations: the Central Intelligence Agency (CIA), created in 1947, with an annual budget reported to be about $3 billion and a staff of nearly 20,000; the National Security Agency, created by secret Presidential decree in 1952, with a reported budget of around $4 billion and a staff of more than 30,000; the National Reconnaissance Office, with a budget of perhaps $7 billion dominated by hardware costs for rockets and satellites; and the Defense Intelligence Agency (DIA), created by the Secretary of Defense in 1961, with an annual budget of around half a billion dollars and a staff of some 5,000.[2]

The other half or so of the intelligence community includes the intelligence arms of the individual military services--each of which reportedly employs on the order of 10,000 to 15,000 people and spends perhaps $2 billion to $3 billion a year--as well as the intelligence staffs of the military's warfighting organizations such as the Central Command. Smaller intelligence programs are found in the Departments of the Treasury, Energy, and State.

Among these organizations, the Central Intelligence Agency is the major independent organization in the U.S. government charged with following developments in other countries. The product of an earlier era of defense restructuring, it was created by the 1947 National Security Act that also gave rise to the Air Force and the Joint Chiefs of Staff. The CIA is intended to provide the President and the rest of the National Security Council with data and analysis on a broad range of topics, untainted by the interests of specific departments within the government. Its leader is also the top-ranking intelligence official in the country and is designated the Director of Central Intelligence (DCI). The reforms suggested in the Boren, McCurdy, and Moynihan bills focus largely on the CIA and the DCI. Other approaches to

2. Walter Pincus, "White House Labors to Redefine Role of Intelligence Community," *The Washington Post*, June 13, 1994, p. A8.

cutting intelligence spending discussed in this chapter might also result in substantial savings in CIA spending, but could in addition substantially affect the scope and budgets of other intelligence agencies.

In many ways, U.S. intelligence and the Director of Central Intelligence have successfully played the role of independent voices in the U.S. government, providing a wealth of data and analysis about the economies, military forces, and political structures of many other countries. By so doing, they have provided the basis for negotiating arms control treaties, responding quickly and effectively to crises, and ensuring that a surprise attack against the United States was not under way.

In addition, the apparent redundancies within the intelligence community have provided policymakers with different points of view that have enriched the policy debate. For example, the CIA's estimates of Soviet military spending and arms acquisitions were consistently lower than those of Department of Defense intelligence (and both agencies' estimates were available to policy makers); the views of the National Security Agency about the likelihood of a Mideast war in 1973 proved more accurate than the less alarmist views of other intelligence agencies; and the beliefs that the then Director of Central Intelligence, John McCone, conveyed to President Kennedy in 1962--that the Soviet Union had placed missiles in Cuba--were correct, though the Director's analysts had doubted it.

However, the intelligence community often has not fit the idealized model of a set of information gatherers and classified think tanks that transcend politics and engage in dispassionate, illuminating debate. Partly because of its culture of secrecy and thus insularity, partly because of its strong links with the military, and partly because its Director is chosen by the President, the intelligence community has often shown just as much proclivity to reflect partisan and prevailing geopolitical biases as other parts of the U.S. government.

Even when not biased, its conclusions have frequently been wrong. Of course, infallibility would be an unreasonable standard for any organization. But during the Cold War, the intelligence community's analyses often overestimated the military and economic threats posed by the Soviet Union and the Warsaw Pact. In many cases, political leaders have shared responsibility for the policy failures that are blamed on intelligence.[3] But the fact

3. See, for example, McGeorge Bundy, *Danger and Survival* (New York: Vintage Books, 1988), pp. 334-338 and 350-351; and Richard K. Betts, *Surprise Attack* (Washington, D.C.: Brookings Institution, 1982), pp. 51-62.

remains that many basic assessments provided by the intelligence community over the years have been flawed.

Moreover, the intelligence community contains elements that go beyond collecting and analyzing information. In particular, the CIA is actually three functional organizations in one--and one of those organizations does not consistently fit the mold implied by the title Central Intelligence Agency. Directorates of intelligence and of science and technology do focus on acquiring and analyzing data, but the directorate of operations presides over work that sometimes is less neutral and dispassionate. It includes the important and sometimes underrated gathering of "street-level" information abroad, including the use of spies (so-called human intelligence or HUMINT). But it has often included covert activities--including a hand of some sort in the overthrow of leaders in Guatemala, Zaire, Iran, and Vietnam early in the postwar era; the organization of the 1961 Bay of Pigs invasion and subsequent efforts to topple the Castro regime; the overthrow of Salvador Allende in Chile in 1973; and the mining of Nicaraguan harbors and arms-for-hostage dealings with Iran in the 1980s. Most of these activities were conducted in extreme secrecy, without the knowledge of the Congress and with the knowledge of only a very few in the Administration. In the latter two examples, the Congress was kept in the dark despite the existence of laws requiring that the intelligence committees be notified in advance.[4]

PROPOSALS FOR RETHINKING INTELLIGENCE

Citing the mixed results of past intelligence efforts, the new challenges of the post-Cold War world, or the need to reduce budgets without sacrificing key elements of intelligence, a number of influential policymakers have recommended changes in the basic way in which the United States organizes the intelligence community and its operations.

Reportedly, today's intelligence budget is still considerably larger in real terms than during the Carter or early Reagan years, when annual budgets were perhaps one-third less than the peak levels of the late 1980s. In the specific case of the CIA, cuts planned by the Administration, though sizable, reportedly would leave the organization about as large as it was before the Reagan-Casey era buildup.[5] By the end of the decade, DoD active-duty

4. Daniel Patrick Moynihan, "Remarrying Congress and the C.I.A.," *The New York Times*, February 11, 1987, p. A27.

5. Walter Pincus, "CIA Struggles to Find Identity in a New World," *The Washington Post*, May 9, 1994, p. A1.

personnel and spending will have declined to about two-thirds of typical Cold War levels (taking 1990 as a typical year).[6] But according to press reports, intelligence personnel and spending levels will have declined by only about 20 percent from levels of the late 1980s and early 1990s. It is probably inappropriate that cuts in the intelligence community--which might be considered the nation's insurance policy of sorts--be strictly proportional to the reductions occurring in military forces. But further cuts in the intelligence community of several percent--as discussed in this chapter--may be reasonable in an era when the United States no longer has a major military rival.

Plans That Would Change the Structure of the Intelligence Community

A number of plans to change the structure of the intelligence community have been proposed over the years.

One idea for consolidating intelligence activities, put forth by the Pike Committee in the 1970s, proposed the elimination of the Defense Intelligence Agency. The DIA is essentially a mini-CIA serving the Secretary of Defense and Chairman of the Joint Chiefs of Staff. Such an approach would offer savings of one-quarter to one-half the magnitude of those discussed in this chapter. Thus, in isolation, it would not be sufficient to achieve the magnitude of savings discussed here, but could be part of a broader effort.

Another plan, that of Senator Daniel Patrick Moynihan, formerly Vice Chairman of the Senate Select Committee on Intelligence, would eliminate the CIA. Under the Moynihan approach, the CIA's formal advisory responsibilities would pass to the State Department. (Those parts of its analytic and data-gathering arms that the country chose to retain might be divided up largely between the State and Defense departments.)

Other ideas--including those of recent Chairmen of the House and Senate Intelligence Committees, Senator David Boren and Congressman Dave McCurdy--would make equally fundamental changes in U.S. intelligence. Two new agencies, organized along somewhat different lines than today's National Security Agency and National Reconnaissance Office, would be created to gather information: one from electronics and communications sources, and another from overhead imagery. An independent intelligence chief would be retained, but redesignated as Director of National Intelligence. That person would be responsible for the overall intelligence budget. A much smaller

6. Congressional Budget Office, "Planning for Defense: Affordability and Capability of the Administration's Program," CBO Paper (March 1994), pp. 7, 10.

residual CIA would focus its attention on human intelligence activities only; a new central organization would focus exclusively on analysis.[7]

The Boren and McCurdy approaches would not necessarily lead to any reductions in intelligence personnel or budgets. But under such a major restructuring, the opportunity for streamlining might naturally present itself. Under the Moynihan approach, cuts in personnel seem implied. However, some current CIA personnel might be relocated in order to buttress the staffs of the Defense Intelligence Agency and the State Department's Office of Intelligence and Research.

The impetus for reforming U.S. intelligence is not limited to Democrats. Ideas for restructuring the community were considered during the tenure of Robert Gates, Director of Central Intelligence during the Bush Administration. At present, Senator John Warner, former ranking minority member of the Senate Armed Services Committee and current ranking minority member of the Senate Intelligence Committee, as well as former Senator Warren Rudman, now vice chairman of the President's Foreign Intelligence Advisory Board, have lent their weight to a rethinking of the intelligence community's basic shape and structure. Former President Bush's national security advisor, General Brent Scowcroft, has recently described the intelligence community as "way overblown."[8]

Plans That Would Change the Missions of the Intelligence Community

Whether or not organizational changes would improve the functioning of the intelligence community, they are not guaranteed in and of themselves to produce budgetary savings. A more direct way to reduce the taxpayer's burden without doing damage to core intelligence missions is to reduce attention to those missions that might be deemed less important.

But what might those less critical missions be? One possible answer to this question would proceed from the premise that the overriding goal of U.S. intelligence activities is to contribute to the direct and traditional national security of the United States--that is, the physical security of its territory and its overseas interests against violence or subterfuge. Accomplishing that goal might well require attention to new missions from time to time. For example,

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7. See David L. Boren, "The Intelligence Community," *Foreign Affairs* (Summer 1992); Ernest R. May, "Intelligence Reform," *Foreign Affairs* (Summer 1992); Senate bill S. 2198; and House bill H.R. 4165.

8. Pincus, "White House Labors to Redefine Role of Intelligence Community," p. A8.

given the potential for organized crime in Russia to wreak havoc with that country's excess weaponry, and given the weakness in its central government, U.S. intelligence may need to devote greater resources to monitoring export controls and weapons security in a country that remains a nuclear superpower.

Nevertheless, focusing on the goal of national security, fairly narrowly defined, might allow one to downgrade a host of missions not directly related to actual security concerns. Those missions might include collecting and analyzing data on national economies, trade, narcotics production, environmental matters, and trends in human health.[9]

All of these issues are important, some critically so, to the future of the United States and indeed to the world at large. But does that mean they must remain within the province of the intelligence community? Civilian organizations such as the National Oceanographic and Atmospheric Administration and the National Aeronautics and Space Administration already focus on satellite surveillance of environmental conditions. International financial institutions and the private sector spend a great deal of time and resources tracking global economic trends and transactions (though the U.S. intelligence community may be better positioned to follow illicit economic activities). Technical research centers and universities may be just as well equipped as intelligence agencies to understand the long-term economic and military effects of technological innovation. Medical research centers and organizations such as the National Institutes of Health and the World Health Organization are probably much better able to monitor human health indicators. Drug war efforts, although useful, do not necessarily hold out enough promise to justify the concerted attention of several elements of the intelligence community.

Even the mission of political forecasting may have its proper limits. Over the decades, the intelligence community has misread the political strength and the policy goals of many important foreign leaders--both friends and adversaries. It was too optimistic in judging the political staying power of allies such as the Shah of Iran and President Diem of South Vietnam.[10] To be sure, trying to predict the unpredictable is unlikely to be a consistently successful undertaking. But if some events and trends are difficult to foresee even with access to multiple secret sources, one may ask if substantial U.S.

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9. For such a view, see the statement of Roy Godson, Associate Professor of Government at Georgetown University, before the House Permanent Select Committee on Intelligence, March 17, 1992, Part II, p. 334.

10. Gary Sick, *All Fall Down* (New York: Random House, 1985), pp. 6-11, 92; George C. Herring, *America's Longest War* (New York: Alfred A. Knopf, 1986), pp. 44, 49, 54, 78.

intelligence resources really should be devoted to such efforts. General political analysis conducted at universities and the Department of State may be every bit as useful--and more likely to be properly caveated and subject to critical scholarly review.

Given these other sources of information and analysis, it is not clear that an organizational structure designed to preserve and enhance U.S. national security should continue to focus on all of its current missions. Unfortunately, CBO does not have access to data that would provide a basis for estimating the potential savings associated with eliminating them from the intelligence community's portfolio. But those savings are likely to be significant, reaching or perhaps exceeding the illustrative $1 billion a year level discussed in this chapter.

COUNTERARGUMENTS TO RESTRUCTURING AND STREAMLINING THE INTELLIGENCE COMMUNITY

Whatever the flaws of the intelligence community, and however mixed its historical record may be, policymakers considering reforms and budget cuts would need to be very careful that they were not making pursuit of the best into the enemy of keeping a relatively efficient and effective organizational framework.

Some of the following considerations apply only to one or two of the possible ways in which the intelligence community might undergo restructuring or streamlining of its roles and missions. Others are of general applicability.

The Need to Avoid the "Monday Morning Quarterback" Mentality

To be sure, the intelligence community has often failed to foresee important events or understand important realities and trends in foreign states. But how does one understand the mind of a tyrant in a secretive state to determine when and if he might launch a surprise attack? How does one measure GDP and military spending in a state-controlled economy that does not publish honest economic data? How can one reliably predict the course of political events in foreign countries when Americans are often surprised by the course of politics in their own country? It would be unfair to expect the intelligence community to predict the future with confidence.

Moreover, in trying to predict the unpredictable, U.S. intelligence has often done well. Even where its estimates have been flawed--as with the

Soviet missile gap, for example, where they may have contributed to an arms competition--they have helped policymakers maintain a viable deterrent against major potential adversaries. Sometimes, as in its assessments of Soviet economic growth, the intelligence community has made mistakes but later discovered and corrected for them.

The Need to Keep a Vigorous Intelligence Community

Although the intelligence budget remains large today, that may be appropriate. Arguably, the key U.S. security concerns of the post-Cold War world are stopping proliferation of weapons of mass destruction, predicting the possible onset of ethnic and regional conflict in time to try to avert it diplomatically or with preventive deployments of forces, and understanding the nature of Islamic fundamentalism and other powerful political movements. In contrast to the Soviet threat of recent decades, these problems are often best addressed in their early stages--rather than through the use of large-scale military deterrence or military operations.

Given such circumstances, any tampering with U.S. intelligence should be undertaken only if very well conceived and likely to lead to improved results. A slightly redundant organizational structure that ensures a competitive dynamic to intelligence work should perhaps be seen not as wasteful but rather as a wise insurance policy.

In this regard, an annual intelligence budget that totals roughly $5 billion a year less than recent Cold War levels--as today's reportedly does--may be sensible. The end of the Cold War has meant little change in the intelligence community's responsibilities in places such as the Middle East, the Indian subcontinent, and other areas of the developing world. Although the end of global geopolitical conflict has reduced the need to track every move of Moscow's in those countries, the risks of ethnic conflict, proliferation, and terrorism arguably remain at least as severe as before. This conclusion is supported by data on the prevalence and intensity of conflict around the globe, a survey of trends in the proliferation of weapons of mass destruction, and the ferocity of global terrorist incidents. And reconnaissance and analysis of the former Soviet Union--which reportedly required about half of the intelligence community's resources and budget during the 1980s, or about $15 billion a year--remain important even if not as pressing as before.

The current director of the CIA, R. James Woolsey, addressed the matter of budget cuts in the intelligence community in this way: "We have to do it in a way that we don't lose track of what is happening in Iran, Iraq, Libya,

North Korea or other trouble spots. If we have a crisis with North Korea or a repeat of the World Trade Center bombing, with ugly chemicals used instead of explosives, the same people who now are asking why we need the CIA will be asking why we didn't have better intelligence."[11]

The historical record also provides ample evidence of what intelligence can do well. For example, the intelligence community's analyses of trends in other countries' militaries, though not always accurate, have accomplished the critical goal of ensuring that policymakers not be surprised by the military buildup of a potential adversary. Its monitoring capabilities have made possible arms control treaties that led to substantial reductions in Soviet military forces in Europe and that helped stop and turn back the nuclear arms race. Its early-warning sensors have ensured that the United States would not be caught entirely unprepared by a surprise attack--in the process perhaps helping to deter such a surprise attack. The intelligence community has also helped the United States provide assistance to allies, be it military reconnaissance during conflict or reassurance to potential belligerents that they were not under attack from each other (as in the aftermath of Mideast wars).[12] It has played supporting roles in other domains as well, a good example being the assistance it provided to Colombia in 1993 in tracking drug kingpin Pablo Escobar.

In wartime, the intelligence community is critically important to U.S. military forces, especially so in an era of warfare characterized largely by precision-guided munitions. Its capabilities provided targeting information to U.S. military forces in operations such as Desert Storm. They also facilitated the famous "left hook" by which U.S. ground forces ran around Iraqi positions and quickly reached the flanks and supply lines of those forces.

The Importance of Objective Intelligence and Analysis

An independent intelligence agency--and its independent director, unencumbered by policy responsibilities and reporting directly to the President--can promote objectivity in intelligence gathering. Today, the Director of Central Intelligence is one of three statutory advisors (along with the Chairman of the Joint Chiefs of Staff and the Director of the Arms Control and Disarmament Agency) to the National Security Council (which consists of four individuals:

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11. David S. Broder, "Countering Critics, Defending Decisions," *The Washington Post*, May 12, 1994, p. A11.

12. See Michael Krepon and Peter D. Constable, *Confidence-Building, Peace-Making and Aerial Inspections in the Middle East* (Washington, D.C.: Henry L. Stimson Center, 1992), p. 4.

the President, the Vice President, the Secretary of State, and the Secretary of Defense). Thus, he is not only independent but has direct access to top-level policymakers.

The Moynihan proposal would spell the end of an independent and influential top intelligence officer. Congressman Bud Shuster, also a one-time member of a Congressional intelligence committee, opposed Senator Moynihan's idea several years ago chiefly for this very reason and pointed out its drawbacks. In his words, "Giving the Secretary of State chief responsibility for intelligence raises the specter of 'cooking' intelligence to support a preconceived policy. The separation of intelligence-gathering and foreign policy is a fundamental principle."[13]

The Boren and McCurdy approaches would retain a top-level intelligence chief. However, at least under CBO's interpretation of their approach--which could leave the head of national intelligence with a significantly smaller analytic agency under his immediate control--the chief of national intelligence might be weakened bureaucratically in some ways.

If the problem today is that the Director of Central Intelligence is not independent enough, one might argue that it makes more sense to enhance his independence rather than to eliminate or reduce it. And there may well be ways to do so without eliminating the CIA. For example, an appointment process for the CIA director more akin to that for the board of directors of the Federal Reserve could be expected to reduce the politicization of the agency. At the Federal Reserve, the term of the Chairman does not coincide with that of the President, and the President does not have the authority to fire the Chairman once appointed and confirmed.

The current CIA model--especially in cases where the director is relatively nonpartisan and highly professional--may be more likely to generate objective intelligence than a model placing the Secretary of State at the top of the intelligence community. The latter individual might be more tempted to slant intelligence findings to support the policies of the incumbent Administration. In fairness, however, it should be noted that a stronger intelligence unit within the State Department might in some cases help improve formulation of those policies in the first place.

If an independent intelligence chief was considered important by policymakers, the Moynihan proposal would probably be undesirable. The Boren and McCurdy proposals might not be quickly dismissed, but they too

13. Bud Shuster, "Independence Means Integrity," *The New York Times*, May 19, 1991, p. E17.

might be greeted with skepticism until more intensely scrutinized for their likely impact on the role of the nation's top intelligence official.

The Need to Allocate Resources Optimally

How many imaging satellites does the United States need? Given the constraints of a tight budget, should it buy more of them--and if so, what kinds? Or should it channel more of its resources to specialists in Arabic, or to new sensors for tactical aircraft responsible for reconnaissance in theaters of potential combat, or to improved satellite detectors for missile launch?

Those types of questions must be addressed effectively. They involve, however, complicated matters of advanced technology, intelligence operations, warfighting analysis, and the like. Wrestling with them is probably well beyond the capability of an already-busy Secretary of State who is unlikely to be highly competent in matters of intelligence gathering and analysis anyway. Thus, under the Moynihan approach, key decisions about allocating resources for intelligence probably would fall to a lower-ranking and less prominent individual. Addressing such issues may not be beyond the capabilities of a director of national intelligence as envisioned in the Boren and McCurdy bills. But if charged with all such budgetary responsibilities for the intelligence community, such an individual might need to spend a disproportionate amount of time studying the arcana of technical systems at the expense of providing broader political analysis on a wide array of topics to the President, other parts of the executive branch, and the Congress.

Similar concerns would apply to decisions about how to employ scarce resources during crises and other demanding scenarios. For example, suppose that a crisis occurred in the Persian Gulf while widespread fighting with horrific humanitarian implications was occurring in some other part of the world. To the extent that the geography of these crises placed mutually exclusive demands on satellites, who would choose how to allocate them? Presumably, all top-level officials would choose to dedicate at least some resources to the crisis with the most acute relevance to U.S. national security. But the Department of State, with its broad concerns about regional politics and human rights and the like, might well have different preferences than DoD. Under the current system, and perhaps under the Boren or McCurdy approaches too, the Director of Central Intelligence could play the role of arbiter. But without such a figure (as under the Moynihan approach), the State Department might have a hard time competing effectively with the Defense Department for the control of systems effectively funded out of the

DoD budget and, in all likelihood, better understood by military officials than by diplomats.

Organizational Issues

Restructuring the intelligence community would provide little guarantee in advance that new structures would work any better--or even as well. For example, consolidating analysts more centrally might reduce the healthy competitive dynamic that exists between analysts at different agencies in the community today. Separating analysts from hardware specialists and data "collectors" might lead to poor decisions about how data should be collected and weaken analysts' understanding of the quality and reliability of various data.[14] While changes were being put in place, moreover, the performance of intelligence agencies might well suffer as new procedures and lines of command were worked out.[15]

PRACTICAL ISSUES: TIMING AND BUDGETS

This option, if carried out strictly by reducing the intelligence community's personnel level, would thin its ranks by about 8,000 individuals above and beyond what current plans dictate. Intelligence personnel are being reduced in number by perhaps 3,000 people a year at present. This additional cut, if implemented at that pace, would require about three years beyond 1999 to complete.

At the slightly accelerated pace envisioned in this chapter, however, additional reductions would begin in 1999. They would continue, at a somewhat faster pace, in the years 2000 and 2001. (Organizational structures, top-level chains of command, and missions could, however, change more quickly if desired, perhaps in the next two to three years.)

Under this specific option, some individuals would be leaving their agencies in response to financial incentives--perhaps one-time payments

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14. For such a critique of one recent proposal to restructure the intelligence community, see the submission of former intelligence officer George A. Carver, Jr., at hearings before the House Permanent Select Committee on Intelligence, March 11, 1992, Part I, pp. 96-221; see also testimony of Lt. General William E. Odom before the same committee, March 4, 1992, Part I, p. 57.

15. For an example of a former intelligence official concerned about such matters, see the statement of William E. Colby, former Director of Central Intelligence, before the House Permanent Select Committee on Intelligence, March 4, 1992, Part I, p. 29.

comparable to a year's salary--that would delay the realization of significant cost savings by about a year. The government's savings--initially, the difference between their salaries and their retirement pensions--would thus be fully realized beginning in the year 2002 (see Table 9).

TABLE 9. COSTS AND SAVINGS FROM RESTRUCTURING THE INTELLIGENCE COMMUNITY (In billions of dollars)

	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Budget Authority	0	0	0	b	b	b	0.9

SOURCE: Congressional Budget Office.

NOTES: Minus sign indicates costs. Figures in the 1995-1999 period are in current dollars.

a. Average annual savings over the 2000-2004 period, expressed in 1995 dollars. Annual savings rise to $1.0 billion when option is fully phased in.

b. Less than $50 million.

CHAPTER V

CONSOLIDATING PILOT TRAINING

The Department of Defense emphasizes keeping military personnel trained to high levels in the conviction that well-trained fighting forces are most likely to win wars quickly with the lowest loss of life. Training takes place both in institutional or classroom settings and in operational units (for example, in air wings or battalions or on ships). Classroom or individual training is designed to provide operational forces with personnel who are ready to carry out their duties effectively.

DoD trains almost 200,000 students in classrooms on an annual basis, equal in number to about five large state universities. Each of the services relies on large administrative agencies to provide this classroom or individual training, which includes both beginning and advanced training as well as refresher training that continues throughout the military service member's career. DoD trains its personnel in a wide variety of skills, including how to provide basic first aid, operate and repair weapons, exercise military leadership, and a myriad of other skills that contribute to a successful fighting force.

A number of experts believe that large segments of this training could be consolidated. For example, Senator Sam Nunn suggested that both basic and advanced training might be areas for consolidation. Many people believe that consolidation could both save money at a time when funds for defense are increasingly difficult to find and produce a more coordinated fighting force at a time when the services are emphasizing joint operations more than ever before. This chapter considers an illustrative option that would consolidate undergraduate pilot training for the four services.

RATIONALES FOR CONSOLIDATING PILOT TRAINING

Former Senator Barry Goldwater's remark that the United States is the only nation with four air forces has been repeated so often that it has almost become a cliché. But consider the current program for training pilots, in which each of the three military departments operates its own schools, facilities, and programs. (Marine Corps and Navy pilots train in the same facilities.) In 1992, Senator Nunn suggested that undergraduate fixed-wing pilot training might be consolidated, arguing that basic piloting skills should be the same regardless of whether, for example, students later went on to fly

fighters for the Navy or the Air Force. At the same time, he noted that consolidation would also be justified for basic helicopter training for the same reasons. In fact, Senator Goldwater, himself a helicopter pilot, strongly advocated consolidating helicopter training to then Secretary of Defense Caspar Weinberger in 1983, suggesting that "as long as the thing stays up and hovers or goes where you want it to, there is no difference whether you are over water or land. . . . [Hence, separate Navy and Army helicopter training programs are] not only expensive and redundant, but a complete waste of equipment and personnel."[1]

As further evidence of the potential for consolidation, Senator Nunn observed that the Air Force and Navy had decided to develop and buy a common trainer aircraft--the Joint Primary Aircraft Training System (JPATS). Consolidating pilot training was also one of the few suggestions by Senator Nunn that was endorsed in the report on roles and missions by the former Chairman of the Joint Chiefs of Staff, General Colin Powell.[2] In March 1993, then Secretary of Defense Les Aspin called on the services to develop a plan to carry out the recommendations in the JCS report.

Despite these recommendations, current service plans call for the Navy and Air Force each to exchange (rather than consolidate) one squadron of primary aviation students and their instructors by 1998. By that time, this program would affect only 200 students each year, less than 10 percent of the total undergraduate pilot trainees at that time. The current plan envisions gradually expanding the program as the JPATS trainer aircraft are delivered between 1998 and 2010. Based on initial estimates, the services did not anticipate that adopting joint primary fixed-wing pilot training would yield any significant savings. After more than a year, the most recent evaluation of the contentious issue of consolidating helicopter training throughout the services--the 18th study effort conducted over the last 30 years--remains in limbo with no study results reported thus far. Despite this very gradual and cautious approach to joint training adopted so far by the services, they may now be ready to consider moving more quickly because of the precipitous drop in pilot training requirements.

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1. Letter of Senator Barry Goldwater to Secretary Weinberger, May 3, 1983.

2. See Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993), pp. III-18 to III-20. The JCS report proposed that the services develop a training consolidation plan for full implementation by the year 2000. The plan called for consolidating initial fixed-wing training with a gradual transition to a common primary training aircraft; consolidating follow-on training into four tracks (Navy fighter/attack, Air Force fighter/bomber, Navy and Air Force tanker/transport/maritime patrol, and helicopter); and studying whether it saves money to move Navy, Marine Corps, and Coast Guard helicopters from Whiting Field Naval Air Station in Florida to the Army's base at Fort Rucker in Alabama.

Pilot Requirements Have Dropped in the Last Decade

With the drawdown in force structure, all the services need far fewer pilots than previously. Collectively, total flight training loads--a measure of training that takes into account the length of a course--dropped from 7,500 in 1983 to 3,840 in 1995, a reduction of almost 50 percent.[3] Undergraduate flight training loads, which make up the bulk of flight training, dropped by similar percentages, from almost 5,500 to 2,700 in the same period.[4] Over the last decade, the services have reduced the number of bases on which flight training is conducted from 15 to 12, reducing capacity to train students by about 20 percent.[5] Consolidating flight training could reduce the number of flight training bases, which clearly has not kept pace with the precipitous drop in the need to train pilots.

Based on current estimates of their "steady-state" requirements in 1997--when the drawdown is currently scheduled to be completed--the services believe they will need to train about 2,700 new pilots each year, about the same as today's level. (Total flight training requirements--including navigators and advanced training as well as undergraduate training--are also projected to be at today's level.) Based on the amount of training conducted in the past at the 12 flight training bases in use today, the services together have almost twice as much capacity to train pilots as they will need.

Even without consolidation, this drop in the number of pilots to be trained suggests that the services need far fewer flight training bases than exist today. The Navy, in fact, included one flight training base in its 1993 recommendation for base closure that the 1993 Defense Base Closure and Realignment Commission deleted. Consolidation, however, could well permit the services to close additional bases, since after consolidation some bases otherwise would be only partially used. As part of the ongoing review of base infrastructure for the 1995 Defense Base Closure and Realignment Commission, DoD is looking at consolidating pilot training and options for closure.

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3. Department of Defense, *Military Manpower Training Report, FY 1989* (May 1988), Table VI-1 and data from the Department of Defense for 1995. These figures are measured in terms of average student year--which takes into account differences in training length, as well as student attrition during the course.

4. Department of Defense, *Military Manpower Training Report, FY 1985* (February 1984), p. VI-4 and data from the Department of Defense for 1995.

5. Based on peak student loads in the last decade, CBO estimated that the 15 original flight training bases could train about 8,700 pilots and navigators annually. With the closing of Chase Naval Air Station in Texas, Mather Air Force Base in California, and Williams Air Force Base in Arizona by the base closure and realignment commissions, capacity to provide flight training will drop by about 20 percent to 6,900.

Undergraduate Flight Training Is Similar

What opportunities exist to consolidate flight training and what would be gained? According to DoD's 1992 Trainer Aircraft Master Plan, undergraduate training systems among the services "resemble each other to a remarkable degree" even though the services use a variety of different trainer aircraft.[6] All Army pilots and more than one-third of Navy and Marine Corps pilots learn to fly rotary-wing helicopters, and almost all Air Force pilots train to operate fixed-wing aircraft. All the services rely on a primary phase of general or "core" training, followed by specialized training in a particular type of aircraft. At the end of training, pilots earn their "wings" and generally are assigned to a special squadron where they may receive additional training on the specific aircraft that they will fly in a unit. (Army helicopter pilots are assigned to an operational squadron immediately after receiving their wings.) Consolidating fixed-wing training and consolidating rotary-wing training in this primary phase could yield significant savings.

There are, however, some differences in flight training among the services. The length of undergraduate flight training varies from 39 weeks for Army helicopter pilots to a year and a half for Navy strike pilots. Syllabus length is also measured by the number of practice flight hours that students receive. The number of hours varies by the type of aircraft, the complexity of the training, and the amount of on-the-job training that students receive in operational squadrons. For undergraduate training, syllabus flight hours vary from 149 hours for an Army helicopter student to 259 hours for a Navy strike pilot (see Figure 1). All trainees in both the Navy and the Air Force participate in a primary phase of fixed-wing training; Navy student pilots fly first in the relatively simple T-34 prop aircraft, and Air Force students primarily in the T-37 jet trainer. When the new JPATS trainer is delivered starting in 1998, the Navy and Air Force are anticipating that this primary phase will be the same length and in the same aircraft.

At the end of this primary phase, pilots are selected for further training in either a particular type of fixed-wing aircraft--including the most demanding strike or fighter track--or a helicopter. Navy (and Marine Corps) students who receive higher grades for their performance during initial training are eligible for follow-on training in one type of fixed-wing aircraft--strike, maritime patrol, or E-2 command and control or C-2 transport tracks. Those who get lower grades are assigned to the rotary-wing, or helicopter, track.

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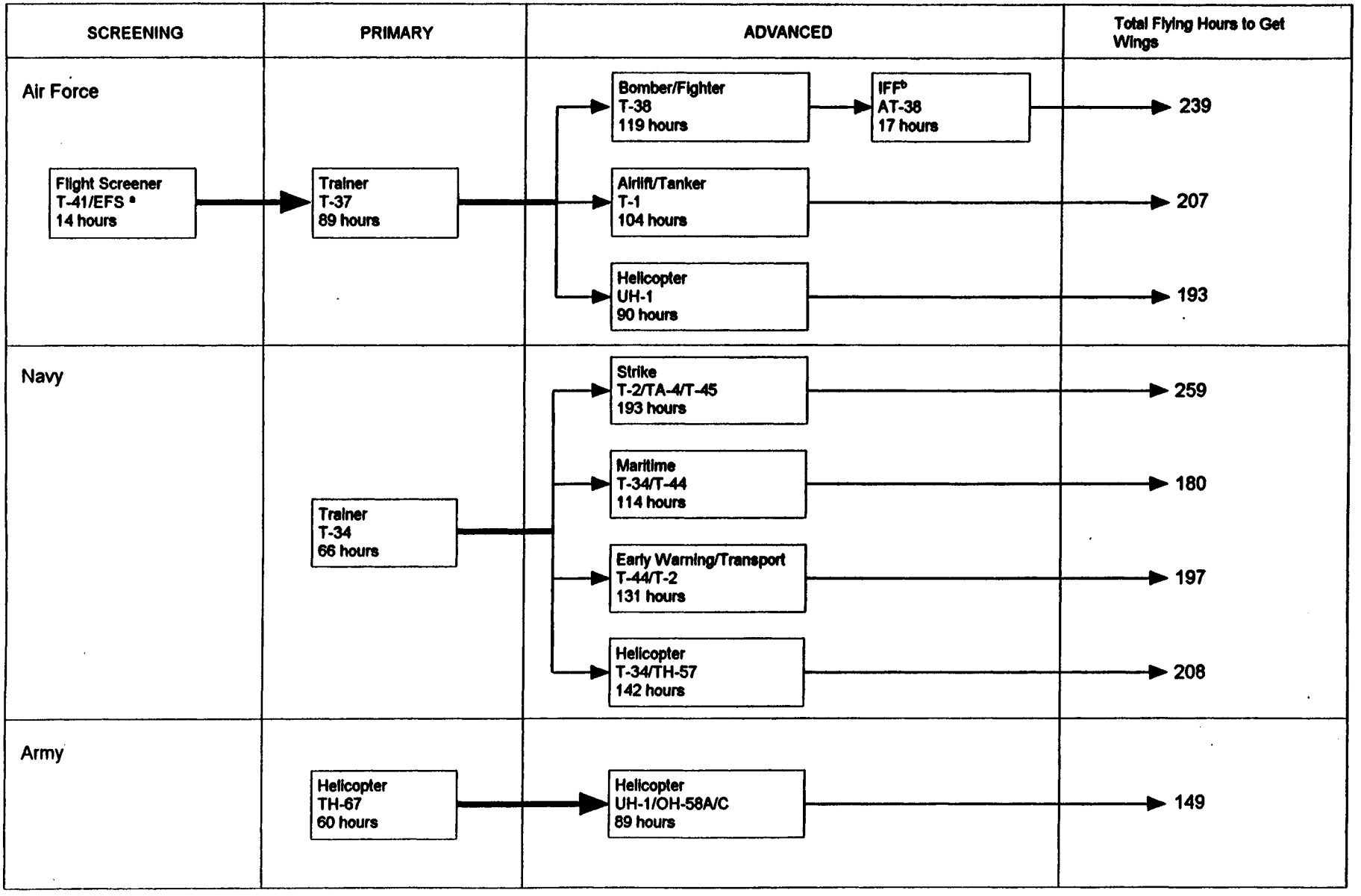
6. Department of Defense, "1992 Trainer Aircraft Master Plan" (1992), p. 24.

FIGURE 1.
UNDERGRADUATE FLIGHT TRAINING PATHS IN THE AIR FORCE, NAVY, AND ARMY
(Number of flying hours in each aircraft)



SOURCE: Congressional Budget Office based on Department of Defense data.
a. EFS is the Enhanced Flight Screener that is replacing the T-41.
b. IFF is Identification, Friend or Foe.

Almost all Air Force pilots fly fixed-wing aircraft. Until this year, the Air Force simply preselected its few helicopter pilots, rather than following the Navy practice of using primary training as a screen for selection.

All helicopter students also receive a primary phase of training that is similar among the services. Air Force and Navy helicopter trainees, however, receive about 25 percent more hours altogether than Army helicopter pilots (see Figure 1). Part of this difference may be explained by variations in requirements for instrument training among the services and part may reflect the Navy and Air Force practice of relying on initial fixed-wing training as a way to select those pilots who will be assigned to the more demanding fixed-wing versus the helicopter track.

Such flight training is expensive. The cost of this lengthy, complex, and capital-intensive training ranges from almost $300,000 to produce an Army helicopter pilot to almost $1 million to produce a Navy strike pilot. These figures include not only the cost of the training itself but also a proportionate share of overhead training-base costs and the salaries of those military personnel who conduct or undergo the training. Overhead costs per student would be lower if training were consolidated on fewer bases.

Investment in New Trainer Aircraft Would Be High

The Department of Defense is in the process of developing, procuring, and fielding several new aircraft to be used for undergraduate pilot training. The Air Force and Navy are developing a new trainer aircraft, the JPATS. Consolidating undergraduate training among the services would allow DoD to delay as well as reduce the size of the JPATS purchase. The JPATS will take the place of the Air Force's T-37 dual engine, side-by-side, jet trainer and the Navy's T-34 prop trainer. The Navy and Air Force plan to buy more than 700 aircraft. The cost of the Air Force's program, including purchase of 372 airplanes, totals about $4 billion. The Navy plans to buy almost the same number of aircraft but has not as yet provided a detailed cost estimate to the Congress.

By February 1995, the Air Force and Navy plan to select the JPATS from among competing designs offered by several contractors. DoD's request for proposal calls for an aircraft that is close to current commercial models but could require some adjustments in design to accommodate DoD's requirement for an ejection seat and a cockpit configured to accommodate smaller female pilots.

The Army is buying 137 TH-67 or New Training Helicopters--a variation of a commercial helicopter--to replace its current trainer, the UH-1, an old Vietnam-vintage helicopter. The new TH-67 is similar to the single-engine, dual-seat TH-57B/C helicopter currently used for Navy training.

CONSOLIDATING UNDERGRADUATE PILOT TRAINING NOW

Both fixed- and rotary-wing training are candidates for consolidation. Navy and Air Force fixed-wing pilots could train together for at least a portion of their undergraduate curriculum. All undergraduate training for Army, Marine Corps, Navy, Air Force, and Coast Guard rotary-wing, or helicopter, pilots might also be combined.

Air Force and Navy Could Adopt a Common Core in Fixed-Wing Training

Fixed-wing flight training could be consolidated without waiting for delivery of the new JPATS trainer. Capitalizing on similarities in the skills learned during the initial phase of fixed-wing flight training, this option assumes that all Navy and Air Force fixed-wing pilots would undergo common core training using the T-34 aircraft. That step would maximize training in the T-34 aircraft, which is cheap to operate and should be available in roughly sufficient numbers to train both Navy and Air Force pilots at least through the middle of the next decade.[7] Based on a service life of 18,000 hours, large-scale retirements of T-34 aircraft might begin around 2004. But according to informal conversations with the Navy, T-34s could last considerably longer since they have no structural problems. One service could conduct this initial phase of primary training at two bases compared with the four bases used now.

Under this option, the Air Force and Navy would no longer train all pilots--including those who are selected to become helicopter pilots--in fixed-wing aircraft. Instead, both services would assign students to either a fixed-wing or a helicopter track based on initial flight aptitude and other tests, as was the Air Force practice until this year. This option would enable DoD to delay the purchase of the JPATS since the services could continue to rely on the T-34 trainer for at least another decade, as well as reduce the number of JPATS aircraft bought.

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7. The Navy currently has 322 T-34 aircraft in its inventory, including some 40 aircraft that need only standard repairs to be flyable. Based on projected student loads and flying each aircraft 720 hours annually, there would be sufficient aircraft available to train both Navy and Air Force fixed-wing students in a common core syllabus of 66 hours--the length of the Navy's primary phase.

Each service could then conduct its own specialized training that would vary by mission and service (for example, fighter/strike or airlift/tanker). During this phase, Navy and Air Force fixed-wing students would continue training in mission-specific aircraft. (The services are currently also considering consolidating specialized follow-on, navigator, and advanced training, but these consolidations are not examined in this option.) Both services would use the JPATS for this primary training when it becomes available; in the interim, both the Air Force and the Navy would use the T-34 aircraft. By relying on the T-34 aircraft for most of primary training, the Air Force would fly its T-37 aircraft far less and would no longer face pressure to buy the JPATS to replace the T-37 aircraft, of which large-scale retirements would begin by 2005. Eventually, probably toward the end of the first decade of the 21st century, the services would need to buy the JPATS to replace the T-34 aircraft used for joint core training.

Services Could Conduct Helicopter Training Jointly

The Navy, Air Force, and Coast Guard's basic helicopter training could also be consolidated under one service and in one location. As with fixed-wing training, this option assumes that primary helicopter training is largely comparable among the services. Instead of the Navy conducting its primary training in the T-34, all Navy and Army students would train in either the Navy's TH-57 or the Army's TH-67 helicopter in one location. The two aircraft are similar, since both helicopters are derivatives of the same commercial model, and aircraft from one service could be transferred to the training base that is selected. Because the number of helicopter students is so much lower than anticipated before the drawdown, DoD is unlikely to need to purchase any additional helicopters to accommodate the Navy pilots who currently train in the T-34 fixed-wing trainer.

After this initial phase of consolidated training, pilots receive additional training in the use of instruments and the specific combat skills required for their mission. For example, Army helicopter pilots must rely primarily on visual cues to fly low--"nap of the earth"--and must learn to pop up and down quickly to avoid enemy fire. Navy pilots, however, rely heavily on instruments to distinguish between sea and sky when flying at night over water, and must learn to land on carriers. This follow-on training could be collocated at one base in order to maximize use of training space and fully exploit common maintenance crews.

To carry out that consolidation of helicopter training, the Navy, Marine Corps, Coast Guard, and Air Force would have to preselect those to be

trained as fixed-wing and as helicopter pilots without the benefit of reviewing initial student flying performance. If it no longer provided fixed-wing training to its helicopter pilots, however, the Navy could buy about 120 fewer JPATS aircraft, reducing its purchase by about one-third and probably saving more than $500 million.[8] This consolidation would probably entail some rearrangement of the syllabus so that common types of training (for example, familiarization and aerobatics) are conducted first, and service-specific training in the second phase.

ADVANTAGES AND DISADVANTAGES OF CONSOLIDATION

Consolidating both fixed-wing and helicopter training would result in significant total savings of $1.3 billion between 1995 and 1999 from delaying the research and development and purchase of JPATS aircraft (see Table 10). Purchase of JPATS aircraft could be delayed because the T-34, the Navy's current trainer, would take over most of the Air Force's fixed-wing training, thus relieving pressure on the Air Force's current trainer, the T-37, the aircraft closest to the end of its service life. Since the T-34 has many remaining years of service life and the Navy has a sufficient inventory, purchasing the JPATS would not be necessary until the first decade of the next century. In addition, at that time, DoD would need to purchase about 120 fewer JPATS aircraft altogether because personnel designated as helicopter pilots would no longer initially train in fixed-wing aircraft.

Operating and Support Costs Could Be Lower

Consolidating fixed-wing and helicopter training could also increase the efficiency of the current training infrastructure by reducing training overhead, since all training of a particular type would be conducted at one or two bases. Consolidation would permit the services to close three and possibly four flight training bases, eventually saving about $180 million each year after initial closedown costs based on recent experience (see Table 10).[9] In addition,

8. Since the JPATS aircraft has not yet been selected, there is considerable uncertainty about likely unit costs. Based on a similar option that would eliminate fixed-wing training for all Navy helicopter students, the DoD Inspector General estimated savings from buying fewer JPATS could total $700 million assuming a unit cost of $5 million per aircraft; see Department of Defense, Office of the Inspector General, *Acquisition of Common Aircraft for Navy and Air Force Undergraduate Pilot Training*, Report No. 92-063 (March 27, 1992), p. 26.

9. CBO estimated the number of flight training bases that could be closed by comparing the maximum flying hours and student loads experienced during the 1980s with estimates of future training requirements. CBO did not make detailed estimates of flight training capacity.

conducting the initial primary training jointly with a common syllabus could lead to adopting "best practices" from each service. Consolidation could also foster interservice cooperation, which is increasingly important when joint operations are the most likely way for the United States to respond to crises.

Such savings could be partially offset by higher costs resulting if additional students moved between the primary and later phases of training. Moreover, the Air Force and Navy could face higher maintenance costs as the older T-34 and T-37 aircraft continued in service. The Navy also argues that using the T-34 for initial training of its helicopter pilots is cost-effective because the T-34 may cost about $100 less per hour to operate than the Army's new TH-67 helicopter. Although substituting helicopter for T-34 flight hours would be more costly, this additional cost could be partly offset by the economies realized from centralizing and shortening helicopter training. The current Navy syllabus could be shortened by eliminating flight hours that are not relevant to helicopter pilots. Moreover, the higher costs of training in the

TABLE 10. COSTS AND SAVINGS FROM CONSOLIDATING UNDERGRADUATE PILOT TRAINING (In millions of dollars)

	1995	1996	1997	1998	1999	1995-1999	Long-Term Annual Savings[a]
Acquisition Savings[b]	160	230	270	300	330	1,290	0
Support Savings[c]	-40	-60	60	130	220	310	190
Total	120	170	330	430	550	1,600	190

SOURCE: Congressional Budget Office based on data from the Department of Defense.

NOTE: Minus signs indicate costs. Figures in the 1995-1999 period are in current dollars.

a. Includes annual operating and support savings after the consolidations have been fully implemented, expressed in 1995 dollars.

b. Includes savings from delaying research and development and procurement of new Joint Primary Aircraft Training System aircraft.

c. Includes savings from closing three flight training bases and savings or costs from training Air Force pilots in the lower-cost T-34 airplane, and Navy pilots in the higher-cost TH-57 or TH-67 helicopters.

TH-67 total less than $1 million annually. The cost to train Air Force fixed-wing pilots would also be lower because the T-34 costs about $200 less per flying hour than the T-37, saving about $10 million annually.

Some additional one-time costs of $10 million to $20 million could accrue when the Navy or Army is required to move helicopters to the common helicopter training base. These one-time costs, however, are far lower than either the short-term savings in the next five years from the delay of JPATS or the long-term savings from the smaller JPATS purchase and base closures. In addition, base-support costs per student would fall as the remaining bases operate closer to their capacity.

However, delaying purchase of JPATS would mean that the Air Force and Navy would not reap the advantages of using a new trainer until a later date. These advantages include having an ejection seat operable at ground level, a digital cockpit common to aircraft that pilots will later fly, the ability to train at higher altitudes, cockpit redesign to accommodate smaller female pilots, and tandem or back-to-front seating.[10] The Air Force also considers the T-34 aircraft unacceptable for its training needs.

Selecting Fixed-Wing Pilots Could Be More Difficult

The Navy, Air Force, Marine Corps, and Coast Guard would all object to adopting common helicopter training because they prefer that their helicopter pilots receive initial training in a fixed-wing aircraft. This preference reflects the Navy's belief that an initial period of fixed-wing training improves its ability to select the highest-quality pilots for such training, as well as Marine Corps and Coast Guard interest in developing pilots who can fly either fixed- or rotary-wing aircraft. The Coast Guard might have more of a problem with giving up training in both fixed- and rotary-wing aircraft because a higher proportion of Coast Guard pilots than pilots in the services fly both types of aircraft. Consolidation, however, is likely to save additional funding and could more than offset any additional costs the Coast Guard might need to incur to provide additional training at a later date to those pilots who need fixed-wing skills.

The Marine Corps has a somewhat similar concern--that helicopter pilots will need an initial period of fixed-wing training to fly the V-22 aircraft, which may be purchased soon and takes off like a helicopter but flies like a fixed-

10. In the mid-1980s, the Air Force argued that it must have side-by-side seating in its T-46 trainer, a plane that was subsequently canceled, but it apparently dropped this argument with the JPATS program.

wing aircraft. Additional training, with the associated costs, could be provided for those helicopter pilots who make a transition at a later date to a fixed-wing aircraft.

Most problematic to the Navy would be giving up the opportunity to use initial fixed-wing training to select those most qualified for strike aircraft, the most demanding training requiring the highest-quality students. A recent study by the Center for Naval Analyses (CNA) suggests that relying solely on preflight aptitude tests to select strike students could slightly reduce the quality of pilots available for fixed-wing assignments. A drop in quality could then increase attrition in follow-on training, thereby raising total costs. (At the same time, it could presumably also increase the quality of helicopter pilots, reducing attrition in that pipeline.) If the Navy wanted to maintain the current quality of fixed-wing students, the number of students entering initial flight training would need to be greater to offset any increase in attrition. A larger pipeline and higher attrition would increase training costs.

Although the CNA study estimated that assigning students based solely on initial test scores would be slightly less accurate than the current practice of relying on initial flight performance, the difference in the quality of students appears to be small.[11] To offset any potential drop in the quality of strike pilots, however, the Navy could adopt selection procedures to maximize the number of high-quality students assigned to the strike track, where quality is most important. For example, the Navy could assign all high-quality students to strike aircraft training even if they voiced a preference for other, less demanding fixed-wing aircraft. (Some Navy student pilots already do not get their first or even their second choice in specialization.)[12] The Navy could also choose to train students with slightly lower initial aptitude scores in strike aircraft, since the quality of students is currently quite high. Alternatively, the Navy could increase its intake of students by a small amount to offset any potential drop in quality, which would slightly increase costs.[13]

Despite these potential drawbacks, consolidation is likely to result in considerable savings, reduce the size of the support infrastructure, and

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11. See John H. Noer, "Primary Flight Training, UHPT, and Pipeline Selection," CRM 93-182 (Center for Naval Analyses, Alexandria, Va., January 1994). The study estimates that the mean score of student strike pilots selected after initial flight training would be 62.6 compared with mean scores of 58.9 for students selected without first reviewing their flight performance, a difference of three points. In both cases, the standard deviation is estimated to be quite large--6.8 points for students selected after flight training compared with a 9.2 point deviation for those selected without flight training, suggesting considerable uncertainty in either case (see Table 19, p. 51).

12. Ibid, pp. 23-24 and 63.

13. Ibid, p. 57.

increase cooperation among the services, which is becoming more essential as DoD draws down military forces and lives within a limited budget.