

dreary facts about the homeless and the multitude of obstacles to getting proper health care. The most common problems are alcoholism and schizophrenia, but the homeless also suffer disproportionately from other afflictions including tuberculosis and AIDS. They are plagued with chronic problems such as hypertension and diabetes, minor injuries, skin and vascular disorders, respiratory diseases, foot and dental problems, and many stress-induced ailments.

The committee concluded that the lack of affordable housing "is a major reason why so many people are homeless in the United States." But housing is only part of the solution. According to the report, the vast majority of urban homeless may suffer from major dysfunctions, many of which precede homelessness. A Philadelphia study concluded that 78% suffered either from mental illness, substance abuse, or severe personality disorders; a comparable figure from a Boston survey of adults in shelters was 90%. Children, who comprise a growing proportion of the homeless (an estimated 100,000 on any given night) commonly suffer from asthma, anemia, malnutrition, and serious emotional and learning problems.

Since perhaps a majority of the homeless have no health insurance, the report says "extending health insurance to those not presently covered is a critical issue in terms of preventing homelessness." However, there is "extraordinary confusion surrounding Medicaid eligibility," and even where coverage is available services are limited and logistical problems are endless—including lack of transportation and difficulties of managing records for people with no fixed address, as well as "resistance to service provision."

The report recommends that the government review entitlement programs to create "rational eligibility standards" for services, and that Medicaid eligibility be decoupled from eligibility for other benefits. It calls for more outreach to the homeless, much wider availability of support services and casework services, more volunteers, drug treatment for all who want it, and places for people to convalesce after hospitalization.

The committee recommends "supportive housing programs" for people with disabilities and says shelters should be reduced in number and returned to their original function as short-term emergency resorts.

The report praises the design of the holistic, multidisciplinary programs set up in 19 cities in the Health Care for the Homeless Project run by the Robert Wood Johnson Foundation and the Pew Memorial Trust. However, the panel felt that establishing a separate health care system for homeless people would be "inappropriate in the long run."

■ CONSTANCE HOLDEN

## SDI Plan Endorsed

A senior Pentagon board has approved further development of a stripped-down, cut-price missile defense system that could be deployed in the late 1990s as the first phase of President Reagan's Strategic Defense Initiative (SDI). The concept for the system was put together during the summer after an earlier version was deemed too expensive (*Science*, 7 October, p. 24).

The new concept would be designed to provide limited protection against Soviet land-based missiles and it would be supplemented later by additional layers of defenses. Like the previous scheme, it would include two types of satellites to track Soviet missiles and warheads; small rocket interceptors based on orbiting "garages" that would attack Soviet missiles shortly after launch; ground-based rockets designed to shoot down warheads before they reenter the atmosphere; rocket-borne sensors and ground-based radars to track warheads in the late stages of their flight through space; and a computerized command and control system. It differs from the previous version chiefly in having fewer space-based interceptors, more ground-based rockets, and less capable sensors on one of the tracking satellites. But the most striking difference is its projected cost: \$69 billion instead of \$115 billion.

The revised plan received a key endorsement last week from the Defense Acquisition Board and it was outlined by Defense Department officials to an unusual joint meeting of the House and Senate Armed Services Committees. Asked by Senator Sam Nunn (D-GA) whether the changes would result in a less capable system, General Robert Herres, vice chairman of the Joint Chiefs of Staff, replied "there is no reason to believe there will be a significant reduction in performance."

Lieutenant General James Abrahamson, the head of the SDI program, told the committees that the same capability could be bought for \$50 billion less, thanks to technological advances. In particular, he cited improvements in the sensors on the space-based interceptors and in their propulsion systems, which should allow them to be made faster and more effective; this in turn would permit their numbers to be reduced. The estimated cost of the interceptor system has consequently shrunk from \$52 billion to \$18 billion.

The interceptors have yet to be built and tested, however, and sources familiar with the new concept say there will be so few of them that they would be unable to cope with an all-out launch of Soviet missiles. There are said to be only about 150 orbiting garages in the system, each housing less than ten interceptors, and because they are constantly circling the earth, only a fraction will be in range at any one time. (The fraction has traditionally been put at one in eight, but an improvement in the speed of the interceptors would bring more within range.)

The acquisition board's endorsement will permit further development of the technologies supporting the system. In addition, the SDI organization is working on technologies such as lasers and particle beams that would be deployed later. The board's approval does not constitute a decision to deploy the initial system, but Herres said that if all goes well, it could be in place "just after the turn of the century." Parts would be deployed earlier, starting with a series of sensor satellites called the Boost Surveillance and Tracking System (BSTS), which Abrahamson said might be ready for deployment in the mid-1990s. Herres said the BSTS will be needed for early warning, with or without SDI.

The Armed Services Committees raised few questions about the technology and capability of the proposed system, but several members expressed skepticism about the costs. Nunn, for example, noted that, as with most programs, "every time we get in the selling stage the [cost] charts go down. When we get into the building stage, the costs go up."

Herres acknowledged that the high cost of the earlier version prompted concern within the Pentagon that other programs would have to be cut back, and he says he brought this concern to Defense Secretary Frank Carlucci. The new plan, he said, is still "going to have an impact on our overall budget," but it "should be manageable."

Whoever is elected President, the new SDI plan is sure to face a tough review by the new Administration and on Capitol Hill. Aside from its cost, development of the initial system would at some point contravene the traditional interpretation of the Antiballistic Missile Treaty, a step that, to say the least, would be controversial.

■ COLIN NORMAN