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HUMAN RESOURCES DIVISION

released

JUNE 13, 1985

B-219055

The Honorable Jake Garn, Chairman
Subcommittee on HUD-Independent
Agencies
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

Subject: VA's Justification for the Number of Beds Planned for the Philadelphia Hospital and Nursing Home (GAO/HRD-85-69)

At your request, we reviewed the Veterans Administration's (VA's) rationale and basis for determining that it needed a 538-bed hospital and 240-bed nursing home as part of its proposed modernization of the Philadelphia VA medical center. As discussed with your office, we concentrated our attention on

--evaluating VA's 1981 and 1982 adjustments to the results of its computer model (the principal means by which VA projects its future bed requirements) and

--determining whether VA adequately considered local needs and resources and alternatives to new construction for the proposed nursing home.

We believe that VA did not adequately justify the changes it made to the computer model's results when it established its 1990 hospital bed requirement. Consequently, the hospital's size, which served as the requirement for both the conceptual design and preliminary planning contracts that VA awarded, appears to have been overstated.

The proposed 240-bed nursing home appears to be needed. VA planners followed VA central office guidance and adequately considered local needs and resources as well as alternatives to new construction.

The detailed results of our review are in enclosure I. It provides information on how VA planners estimated the bed requirements, their rationale for making adjustments to model results, and our analysis of their adjustments.

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BACKGROUND

The Philadelphia VA medical center currently includes a 478-bed hospital, a research wing, and an outpatient clinic located apart from the hospital in downtown Philadelphia. The hospital was constructed in the early 1950's and, according to VA, has remained virtually unchanged despite expanding workloads. VA stated that the hospital has been cited by the Joint Commission on the Accreditation of Hospitals for many design inadequacies and functional deficiencies.

VA's plan for modernizing its Philadelphia medical center calls for completely renovating the bed space in the existing hospital and constructing a clinical addition, a nursing home, and other facilities. When this plan is completed, the medical center will contain 538 hospital and 240 nursing home beds. Space for 111 beds in the existing hospital has already been modernized. The current project, estimated to cost about $128.1 million, encompasses the following:

--Constructing a multistory clinical addition adjacent to the existing hospital. This addition will include outpatient clinics, surgical suites, medical and surgical intensive care units (32 beds), and supporting laboratories.

--Renovating space in the existing hospital for 154 beds.

--Constructing a 240-bed nursing home on land to be donated to VA by the city of Philadelphia across the street from the existing facility.

--Constructing other facilities, such as a 914-space parking structure and a pedestrian walkway linking the structure to the nursing home.

VA's plan to complete the medical center's modernization will require other minor construction projects, estimated to cost about $6.8 million, to renovate space in the existing hospital for the remaining 241 beds.

For projects such as that in Philadelphia, each successive phase of the construction process--conceptual design, preliminary planning, and working drawings--tends to further finalize the scope of the project. Major changes in the scope after preliminary planning begins are likely to cause the projects to be redesigned. Therefore, we reviewed the process by which VA determined the Philadelphia hospital's bed requirements when it

contracted for conceptual design in November 1981 and for preliminary plans in June 1983.

VA DID NOT ADEQUATELY JUSTIFY HOSPITAL BED REQUIREMENTS

VA requires its planners to determine future hospital bed requirements by using a computer model and to justify any deviations from the model's results. Based on our review of the adjustments made to the model's results for 1981 and 1982, we believe that the total number of beds projected for the Philadelphia hospital is inaccurate because increases made by the planners for some hospital bed sections were not offset by reductions in other sections. This resulted in a double counting of bed requirements for some sections. In addition, we were unable to assess whether other adjustments to the model's results were justified because documentation supporting those adjustments could not be located by VA officials. We believe that the bed requirements established in 1981 could have been overstated by as many as 72 beds and those established in 1982 by as many as 57 beds.

Increases to some bed sections not offset by reductions in others

Planners made several adjustments to the model's results to increase the number of beds for certain bed sections but did not appropriately reduce the number of beds projected for the other bed sections. For example, the model divides the total projected surgical beds into acute and nonacute care beds. In 1982 planners believed that the model did not fairly project the number of acute surgical beds needed in 1990 and added 39 acute beds to the 121 projected by the model. However, they did not reduce the number of projected nonacute care surgical beds.

In addition, planners made several other adjustments to the model's results to correct for problems with the data used by the model and to account for patients from one section being treated in other bed sections. For most of these adjustments, planners did not offset the increases in one bed section by reducing the number of beds projected for the other sections.

Documentation for some adjustments could not be located

VA's guidance to its planners required them to justify deviations they made to the model's results. VA planners were unable to locate documentation for several adjustments made in

both 1981 and 1982. Therefore, we could not reach conclusions as to whether these adjustments were justified. For example, in 1981 the planners reduced the number of extended hospital beds projected by the model from 80 to 46 because an analysis by the former chief of surgery indicated that the need for extended care beds generated by surgical patients was decreasing. Hospital officials were unable to locate documentation concerning the analysis.

VA ADEQUATELY JUSTIFIED THE NEED FOR A 240-BED NURSING HOME

VA requires its planners to document the need for a VA nursing home care unit by projecting veterans' nursing home care needs, the availability of community and state nursing home care beds for VA patients, and the feasibility of converting existing space into nursing home care units. Our review was directed to determine whether VA planners followed this procedure when justifying the need for the 240-bed nursing home in Philadelphia.

For Medical District 4, which has planning responsibility for Philadelphia and six other VA medical centers, planners projected that in 1990 the district's overall demand of 2,818 veterans would be met by beds in community nursing homes (726), state veterans' homes (940), and VA facilities (1,187). Some of the differences between the number of beds VA projected it will need to provide in district 4 by 1990 (1,187) and those already available or planned (921) would be met by the 240-bed construction project at the Philadelphia medical center.

The nursing home is also supported by the projected need for and supply of nursing home beds for veterans in the Philadelphia medical center's primary service area. Of the total estimated district nursing home bed need for 1990 (2,818 veterans), planners estimated that 21.7 percent (or 612 veterans) would be served in the Philadelphia primary service area. Planners estimated that 129 veterans would be treated in community beds in the primary service area. Philadelphia's veterans would also have access to 83 state nursing home beds in New Jersey and about 68 of the beds in the new proposed state home near Philadelphia, for a total of 151 veterans served in state beds. Since community and state nursing homes are estimated to treat about 280 of the 612 veterans who will seek care from VA in 1990, building a 240-bed nursing home care facility in Philadelphia appears justified. Planners indicated that no space was available at the medical center to be renovated or converted into a nursing home care unit.

VIEWS OF AGENCY OFFICIALS

We did not send this report to VA for its official comments. However, on April 2, 1985, we discussed the results of our review with officials from VA's Office of Construction and Department of Medicine and Surgery. These officials stated that planning data developed in 1983 and 1984 continue to support the need for 538 beds for the Philadelphia hospital.

We did not evaluate and therefore cannot express an opinion on the validity of the 1983 and 1984 data. Our objective was to evaluate the data VA used when it established the size of the hospital. We recognize that the 1983 and 1984 data are useful to VA to determine whether changes have occurred that might significantly affect the projected size of the hospital. However, we believe that VA's critical decisions were made based on bed requirements established in 1981 and 1982. In our opinion, VA's assertion that subsequent data support the need for 538 beds does not change the fact that the bed requirements were originally overstated when VA essentially locked-in the size of the facility and awarded the conceptual design and preliminary planning contracts in 1981 and 1983.

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As agreed with your office, we will not distribute this report further for 30 days unless its contents are publicly released. We will then send copies to the Administrator of Veterans Affairs; the Director, Office of Management and Budget; the chairmen and ranking minority members of the various committees and subcommittees concerned with VA; and other members of the Congress who have expressed an interest in our review. Copies will also be made available to other interested parties who request them.

Sincerely yours,

Richard L. Fogel

Richard L. Fogel
Director

Enclosure

ENCLOSURE I

VA'S JUSTIFICATION FOR THE NUMBER OF BEDS PLANNED FOR THE PHILADELPHIA HOSPITAL AND NURSING HOME

On October 12, 1984, the Chairman, Subcommittee on HUD-Independent Agencies, Senate Committee on Appropriations, asked us to perform a general review of the information on which the Veterans Administration (VA) based the sizing of its Philadelphia hospital and nursing home.

VA'S PLAN FOR MODERNIZING THE PHILADELPHIA MEDICAL CENTER

The Philadelphia VA medical center currently includes a 478-bed hospital, a research wing, and an outpatient clinic now located apart from the hospital in downtown Philadelphia. The hospital was constructed in the early 1950's and, according to VA, has remained virtually unchanged despite expanding workloads. VA stated that the hospital has been cited by the Joint Commission on the Accreditation of Hospitals for many design inadequacies and functional deficiencies.

VA's plan for modernizing its Philadelphia medical center calls for completely renovating the bed space in the existing hospital and constructing a new clinical addition, a new nursing home, and other new facilities. When this plan is completed, the medical center will contain 538 hospital and 240 nursing home beds. Space for 111 beds in the existing hospital has already been modernized. The current project encompasses the following:

--Constructing a multistory clinical addition adjacent to the existing hospital. This addition will include outpatient clinics, surgical suites, medical and surgical intensive care units (32 beds), and supporting laboratories.

--Renovating vacated space in the existing hospital for 154 beds.

--Constructing a 240-bed nursing home on land to be donated to VA by the city of Philadelphia across the street from the existing facility.

--Constructing other facilities, such as a 914-space parking structure and a pedestrian walkway linking the structure to the nursing home.

VA's plan to complete the medical center's modernization will require other minor construction projects at an estimated cost of $6.8 million to renovate space in the existing hospital for the remaining 241 beds.

This project was not part of VA's fiscal year 1985 budget request but was authorized by the House and Senate Committees on Veterans' Affairs. When the Congress passed VA's appropriation act for fiscal year 1985 (Public Law 98-371, July 18, 1984), it instructed VA to resubmit a list of construction projects to be funded with the approved appropriation. On September 1, 1984, VA submitted its list, which included this project. Of the $128.1 million estimated total cost for the project, $17.7 million was made available in fiscal year 1985 for design work; $12 million has been requested by VA as part of its fiscal year 1986 budget for the nursing home, surface parking, and pedestrian bridge; and the other $98.4 million will be requested as part of future budgets. This project is scheduled to be completed in 1990.

Processes VA used to plan the hospital's modernization

Plans for modernizing the Philadelphia hospital were initially developed under a VA central office-directed planning system and later refined under a decentralized district planning process.

In February 1981, a VA central office planning committee determined that 538 hospital beds would be needed to meet the projected needs of veterans in Philadelphia's service area in 1990. Upon approval of this determination by VA's Chief Medical Director, in November 1981 VA awarded a contract to an architect/engineering firm to develop conceptual plans to meet the 538-bed requirement.

In fiscal year 1982, VA established a new decentralized planning process--Medical District Initiated Program Planning (MEDIPP)--under which VA district officials were required to project future hospital bed requirements for each hospital in their district. With the architect/engineering firm's conceptual design already underway, planning officials in VA's Medical District 4 projected bed requirements for the Philadelphia hospital and for the other six hospitals in the district. The bed requirements for the Philadelphia project established under MEDIPP in fiscal year 1982--again 538 beds--represented the latest planning data VA had available when it awarded a contract in June 1983 to the architect/engineering firm for preliminary planning of the project.

For projects such as that in Philadelphia, each successive phase of the construction process--conceptual design, preliminary planning, and working drawings--tends to further finalize the scope of construction projects. Major changes in the scope after preliminary planning begins are likely to cause the projects to be redesigned.

VA uses a computer model to help determine the number of hospital beds

Under both planning processes noted above, VA used a computer model to help determine the number of beds for the Philadelphia hospital and other hospitals in its major construction program. VA uses the model to project, for a target planning year, the total number of acute care and nonacute care beds needed in the individual bed sections of a hospital. The model uses

--historical VA hospital utilization data, such as occupancy rates, discharge rates, and VA patients' lengths of stay for various medical diagnoses to determine the total beds needed in the target year;

--data on average lengths of stay in nonfederal acute care hospitals for the same diagnoses to determine the acute care beds needed in the target year; and

--distribution of nonacute beds based on an annual 1-day VA survey at each of its hospitals to identify the specific needs of the patients in the hospital on that day.

VA views the results produced by the model as one factor to be considered in hospital sizing decisions. VA policy states that the final recommendations on the number of beds to be included in a proposed hospital may deviate from the model's results provided the differences are justified to VA's central office.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objective was to review the information VA planners used to establish the number of beds for the hospital and nursing home. We determined when VA reached key decision points on the size of the hospital and nursing home and reviewed with the planners the information they used to justify their decisions.

For the hospital, we focused our analysis on VA's planning efforts in fiscal years 1981 and 1982 because it was on the basis of those efforts that VA established the 538-bed requirement for its conceptual design and preliminary planning contracts with the architect/engineering firm. To determine whether VA planners justified the number of hospital beds that deviated from the projection arrived at by using the model, we reviewed documentation obtained from and interviewed officials at the medical center, the Medical District 4 planning office, and VA's central office.

We did not assess the reliability of the data VA used in operating the computer model because it was impractical due to time constraints. Therefore, we do not know how accurate and complete the model's results are. For the purposes of this evaluation, we assumed the model's results were reliable and focused our evaluation on the planners' adjustments to the model's 1981 and 1982 results.

VA provided us data on the bed projections it made for this hospital in fiscal years 1983 and 1984. We did not evaluate those data because VA had already decided on the size of the hospital based on data available from fiscal years 1981 and 1982.

We did not evaluate the justification for the clinical addition or the parking structure.

For the nursing home, we focused our analysis on fiscal year 1983 data because VA used them to justify the size of the nursing home. We interviewed central office, medical district, and medical center officials knowledgeable about VA's plans for the nursing home and reviewed documents VA provided as justification for the decisions made about the home. We did not, however, validate VA's data on veteran population projections, community and state nursing home utilization rates, and future availability of community and state nursing home beds.

Except as noted above, our review--conducted between October 1984 and March 1985--was performed in accordance with generally accepted government auditing standards. As requested by the Chairman's office, we did not obtain official comments from VA on a draft of this report. However, we discussed the results of our review with VA officials and incorporated their views where appropriate.

ENCLOSURE I

HOW VA ORIGINALLY DETERMINED THE NEED FOR 538 HOSPITAL BEDS

In February 1981, a VA planning committee composed of central office and Philadelphia hospital officials met to develop 1990 projections of the hospital's bed requirements. The committee used as its guide a January 1981 central office planning document entitled "1990 Hospital Bed Projections for the VAMC, Philadelphia."

According to the minutes of the meeting, the committee reviewed the model's results, which had projected 456 beds. The committee made several adjustments to the model's results and recommended to VA's Chief Medical Director that the size of the hospital be set at 538 beds. In May 1981, the Chief Medical Director approved the committee's recommendation. This requirement became the basis for awarding a contract in November 1981 for the hospital's conceptual design.

The following table shows the model's results and the planners' adjustments to the results.

ENCLOSURE I

Table 1

VA's Hospital Bed Projections
1981 Model Results
as Adjusted and Approved

Bed sections	1981 model results	1981 adjustments	1981 planning committee approved
Internal medicine	185	-	185
Extended hospital	80	-34	46
Neurology	[a]	+30	30
Rehabilitation medicine	[a]	+20	20
Surgery	119	+56	175
Psychiatry	72	-	72
	456	+72	528
Dialysis[b]	b	+10	+10
Total	456	+82	538

[a]Planners stated that because of data problems, such as improper classification of discharged patients, the model's results were not applicable to these sections.

[b]The model was not designed to project the number of beds needed for the dialysis section.

Adjustments to 1981 model results

The planning committee adjusted the model's results for four bed sections and added a requirement for 10 dialysis beds. These adjustments and the committee's reasons for making them are discussed in the following sections.

Extended hospital

The model projected a need for 80 extended or intermediate care (a level of care between acute and long-term) hospital beds--49 for surgical patients and 31 for internal medicine patients. According to its minutes, the committee reduced the requirement from 80 to 46 beds because an analysis indicated that the need for extended care generated by surgical patients was falling. The former chief of surgical service at the Philadelphia hospital told us that he had conducted several spot

checks of the surgical wards and determined that only about 15 extended surgical care beds were needed as compared to the 49 beds projected by the model. Hospital officials were unable to locate the records to document this decrease.

Neurology and rehabilitation medicine bed sections

The model results did not assign bed requirements for the neurology or rehabilitation medicine bed sections. The January 1981 planning document stated that the results of the model were inapplicable because of data coding problems involving these sections.

The committee's minutes stated that officials at the Philadelphia hospital estimated a need for 30 neurology beds. In addition to the average number (13) of patients who had been cared for in the neurology bed section, 10 to 13 other neurology patients generally had to be treated in other bed sections. In addition, hospital officials stated that the hospital's bed/veteran ratio was less than that of hospitals in other densely populated areas. The committee agreed and approved 30 beds for neurology.

The current chief of neurology service at the Philadelphia hospital, who was on the staff during that period, told us that the committee's 1981 estimate of patients seen in other bed sections was based on intuition and that there was no documentation to support it.

For the rehabilitation medicine bed section, the committee recommended 20 beds, based on a 5-year average of the number of patients in this section and a 95-percent occupancy rate for this section.

Surgical bed section

The committee's minutes stated that the Philadelphia hospital's estimate for surgical bed needs for 1990 was based on records maintained by the chief of surgical service, which were presumed to be more accurate than data used by the model. The former chief of surgical service told us that many surgical patients were discharged from beds in other sections of the hospital. The model would not count these discharges as surgical patients because the records were coded based on the bed section from which the patients were discharged. Based on the chief of surgery's records, the committee approved 175 beds instead of the 119 projected by the model. Hospital officials were unable to locate these records.

GAO analysis

For the 1990 target year, the 1981 model projected a total of 456 beds, excluding projections for the neurology and rehabilitation medicine bed sections. A central office planning committee increased the total beds to 538. In making adjustments to the model's results, we believe that the committee may have overstated the hospital's total bed requirement by as many as 72 beds.

VA justified the addition of 106 beds (30 neurology, 20 rehabilitation medicine, and 56 surgery) on the basis that the model did not account for (1) the neurology and rehabilitation medicine patients who had been discharged or (2) all of the surgery patients who had been discharged. However, we believe that the total number of beds could be overstated because the model counted those patients as discharges from other bed sections. VA procedures require hospitals to enter data on every discharged patient into its patient treatment file. The model uses this file as its source to project hospitals' bed requirements. To the extent that the Philadelphia hospital followed VA procedures for entering data into the patient treatment file on the neurology, rehabilitation medicine, and surgery patients discharged from other bed sections, the model would have counted those patients as discharges from the other sections. Therefore, planners should have offset the increase in neurology, rehabilitation medicine, and surgery beds with reductions in other bed sections so that the total beds would not be overstated. We were unable to identify which bed sections included these patients. As discussed on page 10, this coding problem existed again in 1982; however, the district planners offset the increase in neurology beds by corresponding decreases in internal medicine and extended hospital beds.

We believe that the reduction in the extended hospital beds from 80 to 46 beds could have understated the total number of hospital beds by 34. We were unable to assess the reasonableness of this adjustment because hospital officials could not locate the documents to support the decrease. Therefore, the 538-bed requirement could have been overstated by as much as 72 (106-34) beds.

HOW VA JUSTIFIED THE 538-BED REQUIREMENT USING 1982 MEDIPP DATA

In fiscal year 1982, VA's Medical District 4 planners submitted to VA's central office their analysis of bed requirements for the Philadelphia hospital under VA's new MEDIPP process.

ENCLOSURE I

The model's results indicated the need for 394 beds for the hospital, and district planners made several adjustments that increased the projected bed requirement to 453. In November 1982, the medical district submitted its projected 453-bed requirement to VA's central office as part of its district MEDIPP plan.

Central office planners expressed concern that the 453-bed requirement was less than the 538-bed requirement being used by the architect/engineering firm for the hospital's conceptual design. District planners later revised their original submission from 453 to 538 beds based on additional information and analysis.

The table below shows the results of the district's use of the model and the two sets of adjustments the district planners made to arrive at a projected requirement for 538 beds at the hospital.

Table 2

VA's Hospital Bed Projections
1982 Model Results
As Adjusted

Bed sections	1982 model results	1982 first adjustments	1982 original MEDIPP submission	1982 second adjustments	1982 revised MEDIPP submission
Internal medicine	152	-2	150	-	150
Extended hospital	49	-11	38	+46	84
Neurology	6	+23	29	-	29
Rehabilitation medicine	11	+5	16	-	16
Surgery	121	+44	165	-	165
Psychiatry	55	-9	46	+38	84
	394	+50	444	+84	528
Dialysis[a]	a	+9	+9	+1	+10
Total	394	+59	453	+85	538

[a]The model was not designed to project the number of beds needed for the dialysis section.

Adjustments for original MEDIPP submission

The district planners made several adjustments because of the bed section coding problems for neurology and rehabilitation medicine. They also increased the model's results for the surgical bed section. Decreases were made for the internal medicine, extended hospital, and psychiatry bed sections.

Internal medicine bed section--The model indicated a need for 152 internal medicine beds. The planners increased the bed requirement for internal medicine because of reassigned psychiatry beds (see below) and decreased the bed requirement for internal medicine to avoid double counting certain neurology beds (see below). The net result was a projection of 150 beds for internal medicine.

Extended hospital bed section--The model indicated a need for 49 extended hospital beds. The planners reduced the projected beds to 38 to avoid double counting certain neurology beds.

Neurology bed section--As in 1981, specific discharge data were not available for certain years because of bed section coding problems. However, district planners identified 350 neurology patients discharged from the hospital during fiscal year 1981. They were able to identify these patients based on diagnoses rather than the bed section coding used by the model. The planners used a methodology similar to that used by the model and manually calculated a 1990 requirement of 12 acute and 17 nonacute neurology beds. However, they used a longer community length of stay than the model would have. Although this did not affect the total number of projected neurology beds, it switched three beds from nonacute to acute. District planners made offsetting adjustments to internal medicine and extended hospital bed sections to avoid double counting these additional beds.

Rehabilitation medicine bed section--This section also lacked specific discharge data because of bed section coding problems. A district planner told us that he was unable to estimate beds for this section, as he did for neurology, because the patients' diagnoses were not easily identified. Instead, district planners used a different data file to determine actual patient days for fiscal year 1981, converted the days into beds, and applied a 95-percent occupancy rate to project a 1990 requirement of 16 beds. According to the planner, bed levels for

other sections were not reduced to avoid double counting rehabilitation medicine beds because planners were not sure whether these patients were included in the data used by the model.

Surgical bed section--Medical center officials stated that the number of surgical beds projected by the model was unrealistically low. District planners contended that because of large variations in the average lengths of stay in nonfederal acute care hospitals of surgery patients over age 65, the community data did not provide a sound planning figure. Therefore, the planners used longer community lengths of stay than the model used to calculate acute surgical beds. This resulted in an increase of 39 surgical beds. District planners also assigned five surgery beds to the Philadelphia hospital based on a decision to close the surgical service at the VA hospital in Lebanon, Pennsylvania. These adjustments resulted in a projection of 165 surgical beds, compared to the model's result of 121 beds.

Psychiatry bed section--According to district planners, some patients with psychiatric diagnoses were treated in nonpsychiatry bed sections for a portion of their stay. However, the model assigned their entire length of stay to the psychiatry bed section. Therefore, the planners reassigned nine of these beds to other bed sections to reflect the portion of their stay for the treatment of nonpsychiatric conditions. This reduced the model's result to 46 beds.

Adjustments for revised MEDIPP submission

Because central office planners expressed concern that the 453 beds projected in the original MEDIPP submission for the Philadelphia hospital were less than the 538 beds being used for the conceptual design of the modernization project, district planners made adjustments based on additional information, which are described below.

Extended hospital and psychiatry bed sections--District planners increased the projection for extended hospital beds by 46 and psychiatry beds by 38. The 46-bed adjustment in the extended hospital and an 18-bed adjustment in the psychiatry bed sections were based on preliminary results from a 1982 multilevel care survey. Multilevel care surveys are 1-day assessments of 20 percent of each hospital's patients that VA uses to project how many patients should be in different levels of care. The original MEDIPP plan was developed using the 1981 multilevel care survey results.

When the district planners manually recalculated bed projections using the 1982 survey data, which they believed were more accurate than the 1981 data, they increased the total bed projection by 64 beds. However, when the planners reran the model using the same 1982 survey data, the total bed projection increased by only 19 beds. A district planner told us that because the model did not accurately reflect the bed needs of the Philadelphia hospital, the planners relied on the manual calculation of 64 beds.

District planners also increased projected psychiatry beds by 20 to reflect what hospital officials characterized as unmet need. Based on the chief of psychiatry service's estimate of the number of psychiatric patients not able to receive needed care from the Philadelphia hospital, the planners estimated that 53 additional beds would be needed by 1990. However, because the planners believed that such a large increase was not realistic, they added only 20 beds to the model's projection. The chief of psychiatry service told us that the statistics cited in his estimate were based on VA surveys conducted to determine how many patients were being turned away. However, he was unable to locate the surveys' results.

GAO analysis

For the 1990 target year, district planners increased the model's results from 394 to 538 hospital beds. In making adjustments to the model's results, we believe that the planners may have overstated the hospital's total bed requirement by as many as 57 beds: 5 beds from rehabilitation medicine, 7 beds from surgery, and up to 45 beds from extended hospital and psychiatry.

For the original 1982 MEDIPP plan, district planners using the model projected 394 beds for the Philadelphia hospital. The planners initially increased this projection to 453 beds, an increase of 59 beds. We believe that the increase of five beds for rehabilitation medicine appeared reasonable based on the hospital records but should have been offset by reductions in other bed sections for the same reasons discussed earlier (see p. 8). We also believe that the increase of the 39 acute surgery beds should have been offset by a reduction in the nonacute surgery bed section. In making the adjustment for the acute surgical beds, district planners deviated from the model's established methodology. Under the established methodology, the increase in acute surgical beds would have reduced the nonacute surgical beds projected for the hospital. Using the model's methodology for calculating nonacute surgical beds, we estimated that the planners overstated the total by about seven beds.

The revised 1982 MEDIPP plan increased the projection to 538 beds based on the results of VA's 1982 multilevel care survey (64 beds) and unmet need for psychiatry beds (20 beds). We believe that up to 45 of the 64-bed increase was questionable because, when district planners reran the model using the 1982 multilevel care survey results, the resulting net increase was only 19 beds.

We believe that the increase of 20 psychiatry beds appears to be reasonable when compared to VA's original estimate of 53 beds based on unmet needs. However, because the data used to support the original estimate were not available, we could not reach a definite conclusion on the need for these 20 beds.

240-BED NURSING HOME APPEARS ADEQUATELY JUSTIFIED

VA provides nursing home care to veterans in its own facilities and supports veterans in community nursing homes and nursing homes operated by state veterans' homes. VA currently has no nursing home care beds at the Philadelphia medical center. The nursing home care facility for Philadelphia was originally planned as a 120-bed project and was included in the district's 1982 MEDIPP plan. However, the 1983 MEDIPP plan showed the need for a 240-bed nursing home care facility in Philadelphia.

In previous reports[1] we recommended that VA include information on local needs and resources and a discussion of less costly alternatives, such as converting or renovating existing VA facilities or making greater use of community nursing homes. As we recommended, VA now requires its district planners, as part of its MEDIPP process, to document projected nursing home care needs, the availability of community and state nursing home care beds for VA patients, and the feasibility of converting existing space into nursing home care units. Our review was directed to determine whether district 4 planners followed this guidance.

In its 1983 MEDIPP plan, the district's planners estimated the number of nursing home beds that would be needed to serve

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[1]VA Is Making Efforts To Improve Its Nursing Home Construction Planning Process (GAO/HRD-83-58, May 20, 1983).

VA Should Consider Less Costly Alternatives Before Constructing New Nursing Homes (GAO/HRD-82-114, Sept. 30, 1982).

ENCLOSURE I

veterans in the target year of 1990. The planners then projected how many beds VA would supply, and how many would be supplied through community and state nursing homes. Using nursing home utilization rates for their geographic area and the projected 1990 veteran population, district planners estimated that 17,600 veterans would need nursing home care in 1990. VA guidance allowed planners to select a market share of these veterans who will come to VA for care, ranging from 12 to 16 percent. Based on past veteran use, the planners selected a market share of 16 percent and estimated that 2,818 veterans would seek nursing home care from VA in 1990.

MEDIPP guidance in effect when planners justified this project allowed the district to plan to provide between 25 and 40 percent of this need through VA's own nursing homes. Using the 40-percent level and a 95-percent occupancy rate, the district estimated that VA should supply 1,187 beds for these veterans in 1990. District 4 had 921 owned and/or planned beds (including the 120 beds previously planned in fiscal year 1982 for the Philadelphia medical center), leaving an unmet need of 266 beds. This 266-bed requirement was allocated to the district's medical centers by the District Executive Council, comprised of representatives, usually medical center directors, from each medical center in the district. During this process, Philadelphia was allocated 120 additional nursing home beds for a total of 240 beds.

District planners were also required to consider availability and suitability of community and state nursing home care beds when assessing VA nursing home care needs. Planners gathered data from health service administrations and state health planning agencies that showed 86,636 community nursing home beds in operation in district 4. During fiscal year 1982, 643 veterans were residing in community nursing home beds, resulting in a utilization rate of 7.4 veterans per 1,000 beds. To estimate the number of community beds available for VA use in 1990, planners applied this utilization rate to the 98,120 community nursing home beds projected by the above agencies to be available for 1990. This resulted in a total projected VA census of 726 veterans in community nursing homes in 1990.

The number of state nursing home beds available was estimated by considering the number of veterans currently in state nursing homes and the number of state nursing home beds planned for future construction. There are two state nursing homes in district 4, both in New Jersey. In addition, veterans from the district resided in two state nursing homes in Pennsylvania

which were located outside the district's boundaries. Additional nursing home beds are planned in both states, including 180 nursing home beds at a state veterans' home in Chester County, Pennsylvania, about 50 miles from Philadelphia. Considering current utilization and beds planned for future construction, the district projected that 940 state nursing home beds would be available for veterans from district 4 in 1990.

Therefore, the projected 1990 demand for VA-supported nursing home care (2,818 veterans) would be met by beds in community nursing homes (726), state veterans' homes (940), and VA facilities (1,187). Some of the differences between the number of beds VA projected it will need to provide in district 4 by 1990 and those already available or planned (1,187 - 921) would be met by the 240-bed construction project at the Philadelphia medical center.

The nursing home is also supported by the projected need for and supply of nursing home beds for veterans in the Philadelphia medical center's primary service area. Of the total estimated district nursing home bed need for 1990 (2,818 veterans), planners estimated that 21.7 percent (or 612 veterans) would be served in the primary service area.

VA will meet this need through a combination of VA, community, and state nursing home beds. District planners estimated that 129 veterans would be treated in community beds in the Philadelphia primary service area. Philadelphia's veterans would also have access to 83 state nursing home beds in New Jersey and about 68 of the beds in the new proposed state home near Philadelphia, for a total of 151 veterans served in state beds. Since community and state nursing homes are estimated to treat about 280 of the 612 veterans who will seek care from VA in 1990, building a 240-bed nursing home care facility in Philadelphia appears justified. District planners indicated that no space was available at the medical center to be renovated or converted into a nursing home care unit.

VIEWS OF AGENCY OFFICIALS

On April 2, 1985, we discussed the results of our review with officials from VA's Office of Construction and Department of Medicine and Surgery.

VA officials told us that if a significant change in the number of projected hospital beds was identified during a later

planning cycle, the scope of the construction project would be redefined even if it had moved beyond the preliminary planning phase. VA officials stated that planning data developed in 1983 and 1984, which projected 538 and 591 beds, respectively, continue to support the need for 538 beds for Philadelphia.

We did not evaluate and therefore cannot express an opinion on the validity of the fiscal year 1983 and 1984 data. Our objective was to evaluate the data VA used when it established the size of the hospital. The 1983 and 1984 data were used to revalidate, but not to establish, the size of the hospital. We recognize that these data are useful to VA to determine whether changes have occurred which might significantly affect the projected size of the hospital. However, we believe that VA's critical decisions were made based on bed requirements established in 1981 and 1982. In our opinion, VA's assertion that subsequent data support the need for 538 beds does not change the fact that the bed requirements were originally overstated when VA essentially locked-in the size of the facility and awarded the conceptual design and preliminary planning contracts in 1981 and 1983.