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Medical Center Evaluation Project Phase 2

Four State Indian Health Board.

WL. Pleets

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MEDICAL CENTER EVALUATION PROJECT—PHASE II

This report was prepared by:

Four State Indian Health Board
Room 526, Citizens Building
Aberdeen, South Dakota 57401

Wilbur L. Pleets, Project Director

MAY 1977

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Issued by the Aberdeen Area Indian Health Service
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>3</td>
</tr>
<tr>
<td>SCOPE OF PROJECT</td>
<td>7</td>
</tr>
<tr>
<td>Background</td>
<td>8</td>
</tr>
<tr>
<td>Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Aberdeen Health Care Delivery System</td>
<td>11</td>
</tr>
<tr>
<td>Service Unit Profiles</td>
<td>13</td>
</tr>
<tr>
<td>Indian Involvement</td>
<td>14</td>
</tr>
<tr>
<td>Population Trends and Future Needs</td>
<td>14</td>
</tr>
<tr>
<td>Contract Care:</td>
<td></td>
</tr>
<tr>
<td>- Type, Amount, and Expenditures FY 1972-1975</td>
<td>15</td>
</tr>
<tr>
<td>Contract Care Needs</td>
<td>22</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>23</td>
</tr>
<tr>
<td>Choosing Among Alternatives</td>
<td>24</td>
</tr>
<tr>
<td>Objectives of an IHS Medical Center</td>
<td>46</td>
</tr>
<tr>
<td>Indian Cultural Sensitivity Attitudes</td>
<td>47</td>
</tr>
<tr>
<td>Basic Requirements for a New Facility</td>
<td>49</td>
</tr>
<tr>
<td>Funding Alternatives</td>
<td>51</td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>53</td>
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</tbody>
</table>
May 1977 brings Phase II of the Aberdeen Four State Indian Health Board evaluation project to its close. In order to understand the scope and developments of the Phase II project, it is necessary to review the first year's evaluation study.

In February 1975 the first evaluation contract was awarded to evaluate Indian Health Service health care delivery to Indian people in the Aberdeen Area. This project, completed in March 1976, accomplished three general objectives:

A. It described the contract health care situation for Indian people in the Aberdeen Area. Included was information on the present level and cost of contract care in the four states, estimates of the magnitude of the existing backlog of unmet medical/surgical needs among Indian people in the Area, and the costs of meeting these, and population trends and projected future health needs of Indian people in the Area.

B. Four possible alternatives for improving Indian health care delivery were discussed. These alternatives were:

1. Increased funding for the present contract system;
2. Upgrading all local service units;
3. Upgrading three or four service unit hospitals on the Aberdeen reservations with the largest populations, these to provide primary and secondary care to nearby smaller reservations; and
4. Establishing a Major Indian Medical Center in the Aberdeen Area.
C. Projections were made of the additional data and analysis required for choosing among these alternatives. Several criteria were set out for this choice. Of highest priority among them were the preferences of Indian tribes in the Aberdeen Area and it was this priority that determined the format for the Four State Board's proposal to IHS for Phase II of the project.

Phase II was initiated in May 1976. Phase II called for obtaining and analysing a great deal of additional information. Some applies to one or two of the four alternatives, such as construction costs for a major medical center or for upgrading reservation hospitals. In other instances, the information needed was relevant to all four alternatives, such as the comparative quality of care deliverable under each of the alternatives.

During Phase II, comprehensive presentations were developed on Alternatives 3 and 4, which are upgrading hospitals on three or four reservations, and the Major Indian Medical Referral Center, respectively. A brief presentation was also developed on Alternative 1, continuing the present contract system with an increase in funding. No presentation was developed on Alternative 2, as some service units are only administrative and thus offer no real possibility of being upgraded. Even if the massive funding required to do this on the nine reservations with hospitals were available, it would be impossible to obtain the professional staff needed to make these physically improved hospitals capable of delivering significant medical services.

Phase II called for discussing each of these alternatives with Tribal leadership through the four state Aberdeen Area, and all reservations and health organizations were given presentations, with the
exception of three (because of the lack of funding). Resolutions supporting one of the alternatives were solicited, and fourteen tribes/health organizations have submitted either a resolution or a letter of support. The large majority of these support Alternative 4—A Major Medical Referral Center.

The problems described in the full report are real and they truly do impede the delivery of proper health care. The needs defined in the scope of the study are significant and the recommendations we have made are appropriate and worthy of attention, action, and continuation of funding.
SCOPE OF PROJECT

MEDICAL CENTER PROJECT--PHASE II
I. BACKGROUND

In February 1975 the Aberdeen Four State Indian Health Board was awarded a contract by the Indian Health Service to evaluate IHS health care delivery to Indian people in the Aberdeen Area. The project, which was completed in March 1975, accomplished three general objectives. First, it described the contract health care situation for Indian people in the Aberdeen Area. Included was information on the present level and cost of contract care in the four states, estimates of the magnitude of the existing backlog of unmet medical/surgical needs among Indian people in the Area, and the costs of meeting these, and population trends and projected future health needs of Indian people in the Area.

Second, four possible alternatives for improving Indian health care delivery were discussed. These alternatives were: increased funding for the present contract system; upgrading all local service units; upgrading three or four service unit hospitals on the Aberdeen reservations with the largest populations; these units would then provide primary and secondary care to nearby smaller reservations; and, finally, establishing a major Indian Medical Center in the Aberdeen Area.

Third, projections were made of the additional data and analysis required for choosing among these alternatives. In addition, several criteria were set out for this choice. Of highest priority among them were the preferences of Indian tribes in the Aberdeen Area and it was this priority that determined the format for the Four State Board's proposal to IHS for Phase II of the project.
IHS awarded a contract and Phase II of the project was initiated in May 1976. To begin with, Phase II called for obtaining and analyzing a great deal of additional information. Some of this information applies to one or two of the four alternatives, e.g., construction costs for a major medical center or for upgrading reservation hospitals. In other instances, the information needed was relevant to all four alternatives, e.g., the comparative quality of care deliverable under each of the alternatives.

Phase II called for developing comprehensive presentations on Alternatives 3 and 4--upgrading hospitals on the three or four largest Aberdeen reservations and a major Indian Medical Referral Center, respectively. In addition, it called for developing a brief presentation on Alternative 1--continuing the present contract care system with an increase in funding. Finally, it did not call for a presentation for Alternative 2--upgrading all the service units in the Aberdeen Area. A number of these service units are only administrative and thus offer no real possibility of being upgraded; moreover, even if the massive funding required to do this on the nine reservations with hospitals were available, it would be impossible to obtain the professional staff needed to make these physically improved hospitals capable of delivering significant medical services.

Finally, Phase II called for discussing each of these alternatives with tribal leadership throughout the four state Aberdeen Area, and this has been completed with the exception of three reservations (because of the lack of funding). We are compelled to point out that this study is not--indeed, was never intended to be--an exhaustive statistical examination of the IHS. The study was to be thorough
enough to permit us to come to conclusions about the quality of medical care received by Indian people and to make recommendations where appropriate with the aim of insuring the adequacy of that care.

We feel that we have fulfilled the purpose of the study, and we have confidence in the conclusions to which we have come. We do claim that the problems we describe are real, that they truly impede the delivery of proper health care. We believe that the scope of the study was sufficient, that the procedures in carrying out the study were adequate, and that the recommendations we have made are appropriate and worthy of attention and action.

II. INTRODUCTION

The American Indian occupies a unique position in the sociological structure of this country. In general, he has maintained his traditional culture, language, religion, value system, and social organization. His perception of health and his awareness of illness and death is heavily aligned with nature and to living in harmony with the elements.

The health care needs of Indian people are greater than those of urban Americans. The factors associated with this disadvantage of Indian people are well documented. A widely dispersed population, lower levels of income, less available medical facilities, fewer services and trained manpower, and no health insurance coverage are part of a long list of often repeated factors leading to Indians' health disadvantage. Knowledge of these factors is helpful in understanding reservation/urban differences and is essential in the design and operation of the nation's health care delivery system.

It is with this knowledge, in a climate of considerable interest, and guided by Jimmy Carter's and Walter Mondale's message on American
Indians, "Leaders, For a Change", transmitting recommendations on Indian policy and Indian self-determination, that the Four State Indian Health Board is addressing the question of the feasibility of an Aberdeen Area Indian Medical Referral Center. The medical center would serve as a primary health care provider to those Indian persons who fall within the scope of the Aberdeen service unit and as a referral center to the service units comprising the Aberdeen Area Indian Health Service.

III. ABERDEEN IHS HEALTH CARE DELIVERY SYSTEM

The Aberdeen Area Indian Health Service health care delivery system includes two systems for delivering medical care (treatment) to Indian people in the Aberdeen Area. The first system is a direct operation whereby health care is delivered on an inpatient and outpatient basis through IHS owned and operated hospitals and health centers, i.e., service units. The medical services available vary from one service unit to another since the service units themselves vary considerably in size and capabilities depending on the size of the primary service population. The Rosebud, South Dakota Service Unit, for example, has a 41-bed hospital, a surgery program, and three (3) physicians; the service unit at Fort Berthold, North Dakota, is a health center with one (1) physician and no inpatient services.

The second delivery system involves contracting for care with outside health vendors. Each service area within the four states making up the Aberdeen Area, is allocated yearly funds to purchase supplementary medical treatment, i.e., contract care, for its service population from non-IHS hospitals and physicians.

For the larger reservations, the two systems complement one another—at least theoretically. The local service unit provides primary and
most secondary level care to its service population; the contract care system is then utilized to provide more complex secondary and tertiary level care. But, as was mentioned, this is the theoretical relationship between the two systems. The realities are quite different. Only limited secondary care is available even where there are hospitals. As a result, the contract care system which was designed to support the IHS direct operation and provide specialized care and which was under-funded to begin with, has been forced to assume almost the entire burden of providing medical treatment beyond the primary care level. This state of affairs is deplorable from a standpoint of overall health care, and, has important implications for some of the conclusions that were drawn in our first evaluative report.
IV. SERVICE UNIT PROFILES

PHS-IHS SERVICE UNIT
PHS-IHS Facility

ABERDEEN AREA TOTAL (4 states)

CHEYENNE RIVER SERVICE UNIT
Eagle Butte Hospital
Cherry Creek Health Station
Red Scaffold Health Station
Whitehorse Health Station

FORT TOTTEN SERVICE UNIT
Fort Totten Health Center

OMAHA-WINNEBAGO SERVICE UNIT
Winnebago Hospital
Macy Health Station

TURTLE MOUNTAIN SERVICE UNIT
Belcourt Hospital
Dunseith Health Station

PINE RIDGE SERVICE UNIT
Pine Ridge Hospital
Wanblee Health Center
Allen Health Station
Kyle Health Station
Manderson Health Station
Red Shirt Table Health Station

STANDING ROCK SERVICE UNIT
Fort Yates Hospital
McLaughlin Health Center
Bullhead Health Station
Cannonball Health Station
Wakpala Health Station

NO FACILITIES
Sac & Fox Tribe, Tama, Iowa

FORT BERTHOLD SERVICE UNIT
Minni-Tohe Health Center
Mandaree Health Station
Twin Buttes Health Station
White Shield Health Station

RAPID CITY SERVICE UNIT
Hospital/Health Center

PIERRE SERVICE UNIT
Fort Thompson Health Station
Lower Brule Health Station

YANKTON SERVICE UNIT
Wagner Hospital
Niobrara Health Station

ROSEBUD SERVICE UNIT
Rosebud Hospital
Norris Health Station
White River Health Station
Winner Health Station

SISSETON-WAHPETON SERVICE UNIT
Sisseton Hospital

NON-SERVICE UNIT
Flandreau School Health Center*
Pierre School Health Center**
Wahpeton School Health Center

*Includes Flandreau 10-11-50
**Pierre Indian Learning Center Opened for Students 1-1976 (FY-76)
V. INDIAN INVOLVEMENT

The Indian Health Service is firmly committed to a policy of full partnership and improving the health status of the American Indians. The Indian Health Service is involved and responsive to the national goal of establishing the right of the Indian people to adequate health care and to the health care delivery system of their own.

For many years, the Aberdeen Area Indian leadership has expressed through a variety of media, health problems, to which, in their view, special attention must be directed. Foremost, is their expressed need for an Indian medical center to serve the Indian needs of the Aberdeen Area Indian Health Service.

Indian health boards, because of their unique insight into their own problems and knowledge about the effect of health care programs in their communities, have actively sought a more relevant, sensitive and effective health care delivery system.

The National Congress of American Indians, Lakota TB & Health Association, and Aberdeen Area service unit and advisory health boards have either passed resolutions or are supportive of the resolutions concerning the establishment of an Indian medical center. In addition, tribal councils and governing bodies have expressed interest and support for a new facility capable of providing a full range of high quality services. Indian leaders do not view an Indian medical center merely as a need for hospital beds, but rather as an improved system for the organization, acceptability, and delivery of comprehensive health services.

VI. POPULATION TRENDS AND FUTURE NEEDS

The Aberdeen Area service population increased approximately 31%
from 1960 to mid-1975—from just over 37,000 to just under 49,000. Moreover, the rate of increase has remained fairly constant throughout this period, which means that the absolute number by which the service population is increasing each year grows steadily larger. For example, the total increase in the service population between 1960 and 1970 was 7,115; it had increased another 4,386 by mid-1975.

There will be a point, of course, where this population will level off; Indian birth rates are declining toward the national averages. But this point still lies in the future. And since the Indian population is a relatively young one in comparison to the total U.S. population—some 55% of the Indian population in the Aberdeen Area is less than twenty years old—an appreciable additional increase in numbers can be expected.

Thus it seems safe to say that the health care needs of the future Aberdeen service population will be considerably greater than the needs of the present population. How much greater? This is difficult to determine. But 50% to 75% greater does not seem an unreasonable prediction. And when their needs are translated into dollars, the figure for providing for existing unmet medical/surgical needs begins to look like something other than a one-time investment. It begins to look like a future yearly expenditure even before taking into account the steadily increasing cost of medical care.

VII. CONTRACT CARE: TYPE, AMOUNT, AND EXPENDITURE FY 1972-75

Total Cases and Expenditures: Table 1 provides a quick summary of the number of cases handled in the Aberdeen Area through the contract system in FY 1972, 1973, 1974 and the first three quarters of FY 1975; it also shows expenditures for each of these periods.
Two facts seem apparent from an analysis of these figures. First, the cost per case is considerably below what would be anticipated if contract care funds were primarily devoted to specialized treatment. Second, the cost per case is rising steadily—from approximately $200 in FY 1972 to $465 in FY 1973 to $540 in FY 1974 to $631 in FY 1975.


<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Cases</th>
<th>Total Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>4,400</td>
<td>$1,804,232,49</td>
</tr>
<tr>
<td>1973</td>
<td>4,723</td>
<td>2,193,689,11</td>
</tr>
<tr>
<td>1974</td>
<td>4,558</td>
<td>2,480,178,28</td>
</tr>
<tr>
<td>1975</td>
<td>3,374</td>
<td>2,131,557,86</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20,052</td>
<td>$8,609,657.74</td>
</tr>
</tbody>
</table>

Type and Number of Cases and Expenditures Per Year: Tables 2, 3, 4, and 5 provide detailed information on the operations of the contract care system in FY 1972, 1973, 1974, and the three quarters of FY 1975. Each table shows for a given year the total number of contract cases and expenditures in the Aberdeen Area within each of IHS' twenty diagnostic categories.

Several points are worth noting in these detailed tables. First, Accidents, Poisoning and Violence, account for the largest number of contract cases and expenditures; on the average, 20% of each every year. Second, Diseases of the Digestive System and Diseases of the Respiratory System are the other two leading types of contract expenditures each accounting for some 12% to 15% of IHS' contract money every year.

Third, Pregnancy, Childbirth and Puerperium, Diseases of the Circulatory System, and Infective, Parasitic Diseases each account for sub-
stantial contract expenditures yearly.

Fourth, expenditures for certain types of diseases appear to be far below what would be anticipated from the size of the service population. For example, the limited expenditures shown for Mental Disorders make it apparent that little or no treatment is available. Similarly, expenditures for Neoplasms are startlingly low considering present day incidence and treatment costs.

Finally, it is not surprising that expenditures in certain areas are inadequate to the needs. According to the Resource Criteria Document developed by the Indian Health Service, the Aberdeen Office has only 52% of the resources needed to provide the contractual health services required by the Area's service population. Not surprisingly, the more acute types of cases, e.g., Accidents, Poison and Violence, or Respiratory Diseases, tend to pre-empt the available money. Less acute disorders are disproportionately under serviced.
TABLE 2: 1972 Contract Care Cases and Expenditures by IHS Diagnostic Category

Aberdeen Area; Indian Health Service

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>NO. OF CASES</th>
<th>EXPENDITURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accidents, poison, violence</td>
<td>812</td>
<td>$393,404.68</td>
</tr>
<tr>
<td>2. Digestive system</td>
<td>464</td>
<td>266,961.59</td>
</tr>
<tr>
<td>3. Respiratory system</td>
<td>671</td>
<td>223,622.19</td>
</tr>
<tr>
<td>4. Pregnancy, childbirth, puerperium</td>
<td>559</td>
<td>171,504.75</td>
</tr>
<tr>
<td>5. Infective, parasitic</td>
<td>257</td>
<td>107,988.64</td>
</tr>
<tr>
<td>6. Circulatory system</td>
<td>171</td>
<td>87,822.13</td>
</tr>
<tr>
<td>7. Urinary tract</td>
<td>172</td>
<td>63,791.42</td>
</tr>
<tr>
<td>8. Symptoms, ill-defined conditions</td>
<td>164</td>
<td>56,829.20</td>
</tr>
<tr>
<td>9. Endocrine, nutritional, metabolic</td>
<td>119</td>
<td>51,902.42</td>
</tr>
<tr>
<td>10. Congenital anomalies</td>
<td>98</td>
<td>51,790.53</td>
</tr>
<tr>
<td>11. Neoplasms</td>
<td>99</td>
<td>49,780.86</td>
</tr>
<tr>
<td>12. Skin and subcutaneous tissue</td>
<td>130</td>
<td>46,229.74</td>
</tr>
<tr>
<td>13. Musculoskeletal, connective tissue</td>
<td>113</td>
<td>45,569.16</td>
</tr>
<tr>
<td>14. Mental disorders</td>
<td>180</td>
<td>40,724.31</td>
</tr>
<tr>
<td>15. Nervous system</td>
<td>70</td>
<td>38,635.77</td>
</tr>
<tr>
<td>16. Female genitalia, breast</td>
<td>99</td>
<td>32,910.56</td>
</tr>
<tr>
<td>17. Ear</td>
<td>94</td>
<td>23,343.10</td>
</tr>
<tr>
<td>18. Supplemental</td>
<td>46</td>
<td>19,756.84</td>
</tr>
<tr>
<td>19. Eye</td>
<td>56</td>
<td>15,991.77</td>
</tr>
<tr>
<td>20. Blood, blood forming organs</td>
<td>28</td>
<td>15,672.83</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4400</td>
<td>$1,804,232.49</td>
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</tbody>
</table>
### Table 3: 1973 Contract Care Cases and Expenditures by IHS Diagnostic Category

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of Cases</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accidents, poison, violence</td>
<td>834</td>
<td>$494,128.52</td>
</tr>
<tr>
<td>2. Respiratory system</td>
<td>786</td>
<td>$265,032.63</td>
</tr>
<tr>
<td>3. Digestive system</td>
<td>471</td>
<td>$260,404.76</td>
</tr>
<tr>
<td>4. Pregnancy, childbirth, puerperium</td>
<td>535</td>
<td>$174,432.15</td>
</tr>
<tr>
<td>5. Infective, parasitic</td>
<td>267</td>
<td>$138,699.82</td>
</tr>
<tr>
<td>6. Circulatory system</td>
<td>224</td>
<td>$133,923.09</td>
</tr>
<tr>
<td>7. Nervous system</td>
<td>107</td>
<td>$77,974.60</td>
</tr>
<tr>
<td>8. Urinary tract</td>
<td>170</td>
<td>$74,401.06</td>
</tr>
<tr>
<td>9. Musculoskeletal, connective tissue</td>
<td>140</td>
<td>$67,555.81</td>
</tr>
<tr>
<td>10. Endocrine, nutritional, metabolic</td>
<td>150</td>
<td>$67,425.89</td>
</tr>
<tr>
<td>11. Neoplasms</td>
<td>110</td>
<td>$67,251.92</td>
</tr>
<tr>
<td>12. Female genitalia, breast</td>
<td>183</td>
<td>$67,013.62</td>
</tr>
<tr>
<td>13. Symptoms, ill-defined conditions</td>
<td>179</td>
<td>$63,952.45</td>
</tr>
<tr>
<td>14. Skin and subcutaneous tissue</td>
<td>130</td>
<td>$59,096.37</td>
</tr>
<tr>
<td>15. Mental disorders</td>
<td>187</td>
<td>$51,516.49</td>
</tr>
<tr>
<td>16. Congenital anomalies</td>
<td>85</td>
<td>$46,965.58</td>
</tr>
<tr>
<td>17. Supplemental</td>
<td>75</td>
<td>$39,260.38</td>
</tr>
<tr>
<td>18. Eye</td>
<td>47</td>
<td>$17,591.50</td>
</tr>
<tr>
<td>19. Ear</td>
<td>56</td>
<td>$15,106.14</td>
</tr>
<tr>
<td>20. Blood, blood forming organs</td>
<td>27</td>
<td>$12,008.26</td>
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<tr>
<td><strong>Total</strong></td>
<td>6723</td>
<td>$2,193,839.11</td>
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</table>
**TABLE 4: 1974 Contract Care Cases and Expenditures by IHS Diagnostic Category**

Aberdeen Area; Indian Health Service

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>NO. OF CASES</th>
<th>EXPENDITURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accidents, poison, violence</td>
<td>827</td>
<td>$528,374.86</td>
</tr>
<tr>
<td>2. Digestive system</td>
<td>457</td>
<td>350,636.54</td>
</tr>
<tr>
<td>3. Respiratory system</td>
<td>770</td>
<td>291,465.16</td>
</tr>
<tr>
<td>4. Pregnancy, childbirth, puerperium</td>
<td>506</td>
<td>195,122.17</td>
</tr>
<tr>
<td>5. Circulatory system</td>
<td>250</td>
<td>191,207.51</td>
</tr>
<tr>
<td>6. Infective, parasitic</td>
<td>242</td>
<td>140,718.63</td>
</tr>
<tr>
<td>7. Neoplasms</td>
<td>116</td>
<td>103,572.90</td>
</tr>
<tr>
<td>8. Female genitalia, breast</td>
<td>151</td>
<td>89,930.35</td>
</tr>
<tr>
<td>9. Congenital anomalies</td>
<td>81</td>
<td>77,416.05</td>
</tr>
<tr>
<td>10. Musculoskeletal, connective tissue</td>
<td>103</td>
<td>76,527.68</td>
</tr>
<tr>
<td>11. Symptoms, ill-defined conditions</td>
<td>157</td>
<td>64,536.77</td>
</tr>
<tr>
<td>12. Mental disorders</td>
<td>206</td>
<td>64,053.27</td>
</tr>
<tr>
<td>13. Urinary tract</td>
<td>128</td>
<td>62,160.71</td>
</tr>
<tr>
<td>14. Skin and subcutaneous tissue</td>
<td>141</td>
<td>57,381.02</td>
</tr>
<tr>
<td>15. Endocrine, nutritional, metabolic</td>
<td>124</td>
<td>54,359.42</td>
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<tr>
<td>16. Nervous system</td>
<td>82</td>
<td>48,049.29</td>
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<tr>
<td>17. Supplemental</td>
<td>64</td>
<td>26,755.73</td>
</tr>
<tr>
<td>18. Ear</td>
<td>72</td>
<td>23,748.04</td>
</tr>
<tr>
<td>19. Eye</td>
<td>54</td>
<td>19,657.50</td>
</tr>
<tr>
<td>20. Blood, blood forming organs</td>
<td>27</td>
<td>14,505.49</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>4858</td>
<td>$2,480,178.28</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>NO. OF CASES</td>
<td>EXPENDITURES</td>
</tr>
<tr>
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<td>1. Accidents, poison, violence</td>
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<td>2. Digestive system</td>
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<td>13. Skin and subcutaneous tissue</td>
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<td>14. Female genitalia, breast</td>
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<td>15. Nervous system</td>
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<td>16. Endocrine, nutritional, metabolic</td>
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<td>20. Supplemental</td>
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VIII. CONTRACT CARE NEEDS

There is a need to more than double the current contract funding, and since the cost of care is rising yearly—to develop a system whereby funds are increase automatically each year as costs rise.

There is still one question, however. Is increased funding of even this magnitude sufficient? Would doubling the available funds bring health care near a level comparable with national averages? It does not seem likely. To begin with, there exists a very large backlog of unmet medical/surgical needs among the Indian people. The exact size of this backlog can only be estimated since only a few services units had any information on the number of untreated cases in their service populations. Several service unit directors admitted that the diagnosed unmet medical/surgical needs shown in their files were only the top of the iceberg.

What does it add up to? Let's assume that there are 5,000 individuals with unmet medical/surgical needs in the Aberdeen service population, and if the average cost of treatment is assumed to be $1,000 per case, then medical costs for these unmet needs alone total $5,000,000. Add to this transportation to outside facilities—most of them quite a distance—and other non-medical costs, and the total sum is probably closer to $6,000,000.00. This estimate is high than IHS', but it seems likely that IHS' approach considerably under-estimates the present situation. It does not appear to take account of the backlog of unmet medical/surgical needs. It is particularly deficient with respect to recognizing unknown, i.e., undiagnosed, unmet needs.

Other Problems: Insufficient funding is the overriding problem with contract care. But while money is the problem the contract
care system faces others. At the bottom, however, are the numerous comments from Indians centered around on them. Indian patients do not like to be sent away to non-Indian hospital facilities. Partly growing out of this is that the Indian patient in these hospitals feels totally isolated. Rarely is the patient's family able to be there. Also, many of the Indian people, particularly the older people, have only a limited command of English. It is very difficult for them to make their needs known or in turn, to understand instructions or information provided by physicians and hospital staff.

There are other types of problems, but these are sufficient to provide a sense of what it is like for Indian people to be in a contract hospital. Probably the most important of all is what are the implications of the patient's emotional state for his medical situation? How important is a patient's psychological well-being to his recovery?

IX. ALCOHOLISM

There is a noticeable correlation between alcohol abuse and suicide. The death rate from suicides among Indians of the Aberdeen Area is about five times that of the U.S. general population. Most arrests are for alcohol related problems, and alcohol is implicated in many of the accidental deaths resulting from injuries and assaults. Alcohol contributes heavily to the burden of social disruptions. Alcoholism afflicts children as well as adults, and profoundly affects the health of the community. Alcoholism is recognized by the Aberdeen Area as the number one health problem among the Indian people. Since much of the treatment of alcoholism is conducted by social agencies and the police, the medical care system is not fully aware of the burden of this illness.

There are a number of detoxification facilities that provide ser-
vices to Indian people and for which limited contract health services funds are available. The alcohol treatment programs and facilities must be approved for payment beforehand. Further, many Indians feel uncomfortable being treated in a culturally alien environment. This is especially significant when the success of the health program depends heavily upon emotional rapport between patient and staff.

X. CHOOSING AMONG ALTERNATIVES

Four possible alternatives have been presented for improving Indian health care in the Aberdeen Area. Any one of the four would be an improvement over the present situation. But each one offers certain unique advantages and disadvantages. How can the choice be made among them? Which should be chosen?

Increased Funding for the Present Contract Care System

Under this alternative no change is envisioned in the present system of providing contract care. Patients would still be sent away to outside contract medical facilities and medical vendors. The only change under this alternative would be a massive increase in yearly funding.

Upgrading Existing Service Unit Facilities

This alternative calls for major improvements in Aberdeen Area service unit facilities serving large populations, i.e., the large reservations. Envisioned is upgrading these facilities to a point where they would be able to provide complete primary and almost all of the secondary care required by their service population. The existing contract system would, of course, still be relied on for highly specialized care.

Needless to say, this approach would be relevant to the larger units in the Aberdeen Area; service populations for a number of the others are simply too small to justify developing a facility of this magnitude. These smaller units would continue to rely entirely on what local facilities they possess and the existing contract system.

A Mini-Center System

Like Alternative 2, this alternative proposes upgrading service units with large service populations in the Aberdeen Area.
It differs from Alternative 2 in that these upgraded facilities would not only serve their own primary populations, but function as "outside contract facilities" for service populations from smaller service units. These upgraded service units would be improved to a point where they would deliver all primary care and almost all secondary care both to their own population and to the service population of the smaller service units. The standard contract system would still be used, of course, for highly specialized care.

IHS Area Medical Referral Center

Proposed under this alternative is the establishment of a major IHS Medical Referral Center in the Aberdeen Area. The center would be capable of delivering comprehensive secondary level care to the area service population; it would also include certain other benefits such as providing additional training to personnel at service units throughout the Aberdeen Area. A small amount of outside contract care would still be required, e.g., cardiac surgery.

Alternatives 3 and 4, A Mini-Center System and A Major Medical Referral Center, appear to be the alternatives of greatest promise. Alternative 1, Increased Funding for the Present Contract System, is considered improbable by IHS personnel; Alternative 2, Upgrading Existing Service Facilities, also appears improbable since it would have limited impact. Only three or at the most four service units in the Aberdeen Area have populations large enough to conceivably warrant developing and staffing a facility capable of delivering complete secondary level care.

At the same time, while Alternatives 3 and 4, particularly Alternative 4, appear to have greatest promise both from the standpoint of feasibility and the preferences of the Indian people in the area, the other two alternatives will also be fully assessed. It is felt that this is important not only to provide a basis of comparison for Alternatives 3 and 4, but also to allow Indian leadership throughout the Aberdeen Area an opportunity to look at the complete picture.
Alternative 2: Upgrading All IHS Service Units in the Aberdeen Area

As was mentioned earlier, this alternative will not be discussed. It is not feasible from a number of standpoints. To begin with, as is well known to Indian people on the reservations in the Aberdeen area, recruiting professional medical staff for remote reservation locations has more often than not proved to be impossible. Second, to upgrade all service units in the Aberdeen area to a point where they can deliver even general hospital services, excluding surgery, would require large capital expenditures as well as greatly increased operating budgets and would be totally unjustifiable from a cost-benefit standpoint. Third and related to the previous point, partial upgrading would make no significant impact on Indian health problems; if anything it could reduce the quality of care. Fourth, since it would be impossible to staff these small hospitals and since surgery is excluded, large contract budgets would still be required.

In summary, locating self-contained service units capable of providing a significant amount of medical care on each reservation is simply impossible. There are not enough funds. There are not enough doctors. There are not enough nurses. And even if it were possible to provide skeletal staffing to these "upgraded" facilities, the quality of care such units could provide would represent a backward step for Indian health. Modern medicine has become increasingly technological and only the larger facilities with heavy patient usage are able to make the capital investments required to take advantage of this technology. Other reasons against trying to upgrade all IHS service units to a higher level will become apparent when Alternative 4: A Major Medical Referral Center, is discussed. But let it be pointed out now that while the desire of Indian people to
to have a complete hospital facility, including general surgery, on every reservation is understood, the human cost of this facility would be perpetuating the already bleak Indian health statistics. Small understaffed units simply cannot deliver sufficient quality care to meet the demand of the total population.
Alternative 3: Upgrading Four Reservation Hospitals to Mini-Center's.

Under this approach, the Mini-Center system, those Aberdeen reservations with larger populations would have their service unit facilities increased in size, in staffing, in sophistication and, thus, in their capability to deliver medical services. Four hospitals, Rosebud, Pine Ridge, Turtle Mountain, and either Cheyenne River or Standing Rock would be upgraded. Envisioned would be 60 to 70 hospital beds, surgical facilities, improved laboratory and X-ray facilities and blood banking. The four upgraded hospitals would then provide primary care and some secondary care both to their own reservation populations and to Indian populations from adjacent smaller reservations. For example, an upgraded hospital at Turtle Mountain would theoretically become the provider to Fort Totten and Fort Berthold.

Needless to say, this Mini-Center operation would still need to be supplemented by substantial contract care funds. While these upgraded hospitals would be considerably superior to present reservation hospitals in the Aberdeen area, they would still be incapable of providing more than part of the secondary care required. Uncomplicated obstetrics and gynecology would be available; this would also be true in pediatrics and general medicine. But only simple general surgery could be provided and, of course, the hospitals would provide no tertiary care.

Finally, under this system the small reservations, e.g., Fort Berthold would retain their Health Center facilities and, of course, they would still need substantial contract funds to utilize local non-Indian hospitals; severe injuries, e.g., from an automobile accident, require immediate treatment.

Capital Costs: Capital costs for these upgraded facilities will be
calculated from the ground up; at least two of the existing structures, Rosebud and Pine Ridge, have needed replacement for years; while the other two would undoubtedly need additional construction and a great deal of remodeling.

The cost of these new hospitals? The cost of building a new hospital in the Aberdeen area, including fixed equipment, is presently estimated at $121.50 per square foot. An additional 14 percent of this total figure must then be added for the purchase of non-fixed equipment--Group 2 equipment. And, finally, an additional 10 percent of this second total should be added for contingencies, e.g., new water lines or improved sewage systems.

A 60 to 70 bed hospital complete with surgical facilities would require approximately 100,000 square feet. (A new 50-bed facility is on the drawing board for White River in Arizona; it is 86,000 square feet in size and it does not include a surgery.) Working from the above cost figures, the total cost of this hospital can, therefore, be estimated as follows:

\[
100,000 \times 121.50 \text{ per Ft.} = 12,150,000 \\
+ 14\% = 13,851,000 \\
+ 10\% = 15,236,100
\]

In short, a new Mini-Center of the type described above will cost a little over $15,000,000. And this, of course, simply purchases a new hospital. Other support facilities would also be required. For example, the great majority of the professional staff would be from outside the reservation and housing would be required. Total staffing could be
expected to be in the neighborhood of 140 people—these figures are from the Lawton Indian Hospital—and, at a minimum, 50 percent of them would be professional. Consequently, housing will be required for perhaps as many as 60 individuals. Some housing would, of course, be already available. But it is probably safe to assume that at least 40 houses would be required. The cost of housing in the Aberdeen IHS area is just under $45 per square foot. Even if the houses are only 1,000 square feet in size, 40 of them will cost $1,800,000—to which should probably be added a 10 percent contingency fund.

Thus, the basic capital costs of a Mini-Center can be expected to be over $17,000,000. And this, particularly with respect to housing, appears to be a conservative figure. Add to it other potential contingencies such as possible needs for land purchase, and Mini-Center's become expensive propositions.

Operating Costs: Operating costs will be figured in round terms utilizing data from the Lawton and Shiprock hospitals. Lawton's annual operating budget is approximately $2,000,000 plus $375,000 in contract funds. At Shiprock, a somewhat larger intermediate hospital, the yearly budget is $4,376,000, of which approximately $500,000 is for contract care. It is expected that the mini-centers contemplated for the Aberdeen area would lie between Lawton and Shiprock in terms of staff and service delivery. Consequently, operating budgets would be expected to be in the neighborhood of $3,000,000 with at least $400,000 of this being for contract care.

This $3,000,000 per hospital does not, of course, cover all operational costs. Transportation must be provided from the nearby reservations to the Mini-Center. This is a cost which could be assigned to the contract
care budgets at the smaller service units. Regardless of how it is allocated, however, it is a cost associated with Mini-Center operations. So perhaps it would be well to add another $50,000 yearly in operating costs to each of the four mini-centers.

In summary, the yearly operating costs of a Mini-Center can be expected to run something over $3,000,000 and the yearly cost of four mini-centers would be a little over $12,000,000.

**Quality of Care:** As in Alternative 1, increasing the amount of contract funding, quality of care in a Mini-Center system can be evaluated from both a medical and non-medical standpoint. From a medical standpoint, it seems safe to say that the Mini-Center system outlined here could provide better care than the existing contract care system. Clearly, Mini-Center care would be superior to what Indian people are presently receiving in small non-Indian community hospitals. And while from a purely medical standpoint the care might not be equal to the contract care a large non-Indian medical center can deliver—at least not where more complex diagnosis and treatment is required—it should be recalled that the Mini-Center system envisions continuing to use certain major non-Indian facilities for treatment beyond its capabilities. Under a Mini-Center system, the decision on what level of care could be delivered locally would be made in terms of medical factors. If the care required was beyond the capability of the Mini-Center, the patient would be sent to a contract facility. Unlike the present system, however, the only contract facilities utilized would be in larger medical communities such as Rapid City, South Dakota or Bismarck, North Dakota. No longer would Indian patients be placed in small understaffed community hospitals.

What does this sum up to? The answer has already been stated.
Medically speaking, a Mini-Center system, assuming it is supplemented by contract care funds, would be superior to the existing contract system.

As for the non-medical factors, there is no room for debate. Indian people prefer Indian hospitals provided the hospitals are able to deliver quality care. Admittedly, for some part of the Aberdeen population--but this part would be a minority--the hospital would not be on the home reservation. But it would be an Indian hospital. The non-professional staff and at least part of the professional staff would be Indian. And the other patients would be also.

Amount of Care: The amount of care available to Indian people in the Aberdeen area would certainly increase under a Mini-Center system. No longer would it be necessary to utilize contract funds so heavily for primary and simple secondary care. Both of these could be delivered very competently through the Mini-Center hospitals; much more of the existing contract care budget could then be devoted to more serious medical problems. Under present circumstances, most service unit directors find it necessary to refer all but the simplest treatment to outside hospitals--this is true, generally speaking, even in those instances where the service unit includes a hospital. Provided the 10 or 11 physicians needed for a Mini-Center--including a pediatrician, an internist, a general surgeon, and specialists in obstetrics and gynecology--can be recruited, this would no longer be true. Only more serious disorders, e.g. specialized surgery, would require outside referral.

Ease of Recruiting Professional Staff: But can this professional staff be recruited? This, of course, is the issue. All four of the Mini-Centers described above would be in varyingly remote locations. And just as it was true for the alternative of upgrading all reservation
facilities, recruitment, particularly in the specialties, would probably be near impossible. These remote locations offer few social amenities; the cost of living, e.g., food, is considerably higher; the schools are poor. And, finally, there are no possibilities for professional interaction on the part of the physicians aside from their IHS colleagues. The importance of this factor in recruiting physicians, particularly specialists, should not be underestimated. Modern medicine changes rapidly. And from the standpoint of the specialists, the predominant means of staying abreast of these changes is through professional interaction with others in the field.

So two points should be noted. First, it is extremely unlikely that the necessary specialists could be recruited. Second, without the specialists the Mini-Center system won't work. General medical officers are able to provide care beyond their basic training and experience if specialists are available for overall supervision. But from the standpoint of the patient, they should not attempt to otherwise.

The Amount of Care Delivered Locally: Clearly the amount of care delivered locally would increase greatly under a Mini-Center system. Indian patients requiring hospitalization from those reservations without Mini-Centers would, of course, not receive such treatment locally. But the majority of the Aberdeen Indian population lives on the reservations singled out as potential Mini-Centers. Moreover, even in those instances where the patient is from a different reservation, he is in an Indian hospital and, generally, he has relatives or friends locally. Certainly Mini-Centers would be much more "local" than an outside contract hospital.
Alternative 4: A Major IHS Indian Medical Center

As was mentioned earlier, the project director and consultant spent five days in Phoenix, Arizona studying the operation of the IHS Indian Medical Center. The information gained on this visit is directly applicable to the creation of a similar facility in the Aberdeen area.

The Phoenix Medical Center is the heart of the IHS health delivery system in the IHS Phoenix Area. It provides both in-patient and out-patient care to some 50,000 Indian people. This includes complete care for an estimated 20,000 Indian people in metropolitan Phoenix and the nearby reservations. In addition, the Center provides specialized diagnosis, and secondary and tertiary level care to Phoenix Area reservations up to 300 or 400 mile distance.

The Medical Center is more than simply a high caliber referral hospital, however. It is the nucleus of Indian medical care for the entire Area. In addition to delivering high quality care to both nearby Indian people as well as people from more distant reservations, medical Center specialists travel out to these distant reservations, e.g., White River, on a regular schedule, e.g., once monthly. On these scheduled trips, they hold clinics in their specialty in the local facility during which they examine and diagnose from 10 to 25 patients; they provide additional training, e.g., lectures and demonstrations, to the general medical officers and other professional staff at the local service units; and they provide follow-up care to patients who have returned to their reservations from a stay at the Phoenix Center.

In-patient admissions to the Center average approximately 6,000
per year. In addition, over 100,000 out-patient visits are recorded.
Outlying reservations forward patients to the Center by vehicle if
within a 50 or 75 mile radius, by air if further. For example,
reservations such as White River have a regularly chartered plane from
the reservation to Phoenix two days a week; patients in need of diagnosis
or specialized ambulatory treatment are able to leave White River in
the morning and return in the evening. In addition to these regularly
scheduled flights, special charter flights are used to transport emergency
cases from outlying reservations to Phoenix on a need basis.

The Phoenix Medical Center contains 200 beds, five surgical suites,
sophisticated laboratory and X-ray facilities and a large out-patient
facility.

• The Center is staffed by 56 physicians. • Included are eight surgeons,
ten physicians in the area of obstetrics-gynecology, eight pediatricians,
four internists, four opthamologists, an ear and nose specialist, an
orthopedic surgeon, a plastic surgeon, two pathologists and two radiologists.
The remaining physicians are general medical officers.

Of course, physicians are only part of the total manpower at the
hospital. Total staff including nurses, social service counselors and
non-professional people is over 400.

The Phoenix Center has led to a development of a new system of
delivering Indian medical care. All surgery, except for the most minor
local-anesthetic type of work is carried out at the Phoenix Center.
Likewise, severe medical, pediatric, orthopedic, obstetric, and gynecologic cases are treated at the Center. Everything else is handled locally. It is handled by local medical officers under the direct and
telephonic supervision of Phoenix Center Specialists.

What has the Center meant to Indian health care in the Phoenix area? More will be said about this further on. However, it can be noted now that not only has the Medical Center system greatly increased the quality and quantity of Indian health care in the Phoenix Area. It has also broadened the type of care available. As the director of the Phoenix Medical Center indicated, Indian people in the Phoenix Area are being treated for injury and disease which in the past was not even diagnosed since there were no resources available for treatment.

**Capital Costs:** Total cost of a IHS medical center the size--162,000 square feet--of the present center in Phoenix would be approximately $25,000,000 at today's Aberdeen Area construction prices. The capital investment breaks down as follows:

\[
162,000 \times \$121.50 = \$19,683,000 \\
+ 14\% = \$22,432,000 \\
+ 10\% = \$24,864,000
\]

Covered under this sum are the actual construction costs, including fixed equipment, the cost of Group 2 equipment, and a 10 percent contingency fund to cover such possible items as land purchases, new water lines, etc.

The contrast between the cost of a major center and a mini-center is striking. It will be recalled that the total cost --including housing--of a mini-center in the Aberdeen area was estimated at nearly $17,000,000 which would bring the cost of four mini-centers to nearly $70,000,000. And, of course, there is literally no comparison between the amount, complexity and quality of services which can be delivered at a major medical center and those possible at a mini-center.
Operating Costs: As was done in analyzing mini-centers, operating costs for a major referral center will be estimated in round terms; budget information from the IHS Center in Phoenix will be utilized to make these estimates. Two types of yearly operating costs, direct costs for operating the Phoenix Medical Center and contract care costs for the Center, will be described.

The yearly direct operating budget for the Phoenix Medical Center is approximately $8,000,000. Covered under this budget are all salaries, supplies, maintenance, and other support costs. It is estimated that the comparable budget for a center in the Aberdeen Area would be approximately $1,000,000 less because Phoenix has certain costs which would not be duplicated in Aberdeen. To begin with, the Phoenix Medical Center is also the Phoenix Service Unit and in its service unit capacity it provides field medical services to several nearby reservations, e.g., Salt River and Gila River; twenty-seven positions and complete support costs are involved in these field medical services. Second, the Phoenix Medical Center is delivering health care to some 17,000 urban Indians in metropolitan Phoenix; no comparable concentration of urban Indians exists in the Aberdeen Area.

It is estimated that the total cost of these two unique Phoenix activities is approximately $1,000,000. Thus, rather than $8,000,000, the yearly direct operating budget for an Aberdeen Medical Center could be expected to be in the neighborhood of $7,000,000.

The Phoenix Medical Center also has a yearly contract care budget of $2,300,000. This budget is assigned directly to the Medical Center; it is in addition to the contract care budgets of other service units in
the Phoenix Area. It is anticipated that an Aberdeen Medical Center would require a contract care budget of approximately the same size and for the same purposes. These purposes are as follows: First, over $300,000 of the Phoenix contract care budget is utilized for transportation. The Phoenix Medical Center pays all transportation costs for Center specialists to visit the individual service units; these costs are substantial for, as was mentioned earlier, all of the Center specialists make frequent scheduled visits to individual service units in the Phoenix Area. The Phoenix Center also pays all transportation costs incurred by a patient once a patient has arrived at the Center, and, if necessary, when the patient is released; e.g., it pays the cost of returning a patient to White River if the regular White River out-patient charter plane is filled.

The primary purpose of the Phoenix contract care budget is, of course, to supply additional specialized care not available at the Center itself. For example, neither heart nor neurological surgery are undertaken at the center. Instead, these are contracted out to local non-Indian facilities, e.g., the Arizona Heart Institute. Similarly, the contract care budget is used to bring in other local non-IHS specialists as consultants to the hospital. For example, two of the IHS surgeons at the Medical Center have some experience in urological surgery and they are able to perform simpler urological procedures. In those instances where the procedure requires greater skills, however, a local urological specialist is brought in. Likewise, the Center has one orthopedic surgeon. However, for certain complex orthopedic work, additional consultation is needed. Once again a local specialist is brought in.
(In contrast to the present contract situation in the Aberdeen Area, however, the specialist--except in the case of heart and neurological surgery--generally comes to the patient, that is to the Medical Center, rather than the patient going to the specialist, that is to another hospital. In this way, $1.00 of the Center contract budget can do the work of 2 or 3 contract dollars in the Aberdeen Area since no hospital costs are involved and Center physicians and nurses provide the necessary back-up to the consulting specialist, e.g., a surgeon.)

Finally, instances often arise where given types of beds are completely filled at the Center. For example, the Center has 12 beds devoted to obstetrics. At times, all 12 of these may be filled--all potentially difficult births are brought to the Center rather than delivery taking place at a local service unit. Since birth cannot be postponed, contract funds are utilized to place the expectant mother in another hospital in Phoenix.

Needless to say, the overall Aberdeen situation would be comparable. Certain types of tertiary care, heart surgery is a good example, would not be provided at an Aberdeen Area Center; maintaining a cardiac team simply does not make economic sense considering the small number of cardiac procedures required in a year. Likewise, other consulting specialists would be required; and at times the Center's beds would be filled. Finally, transportation costs for the Aberdeen Area would be at least as large as those for Phoenix, perhaps even somewhat larger. And, as is true for Phoenix, a portion of these transportation costs would be paid by the Center.

In summary, it would appear that the total yearly operating costs,
direct and contract, for an Aberdeen Area Medical Center would be in the neighborhood of $9,000,000. Once again, it is useful to contrast this with the yearly operating costs of four mini-centers. The latter figure would be over $12,000,000.

**Quality of Care:** Some idea of the quality of Indian health care possible under a system built around a major medical center is undoubtedly apparent by now. Put simply, the quality of care is superlative, both from a medical standpoint and in terms of non-medical factors. With respect to the former, Indian people from the reservations in the Phoenix Area are being treated for medical problems which other IHS areas, e.g., Aberdeen, are simply unable to consider because of a lack of funds. Moreover, as will be reiterated further on, more and more care is being provided at the local service units. The presence of a major medical center, with its ability to provide back-up through regular visits from specialists, has greatly increased the effectiveness of the local units.

The secret, of course, is the fact that with a major medical center it is possible to develop an integrated system of health care delivery. As was said earlier, establishing an IHS Medical Center in the Phoenix Area didn't simply add a large modern referral hospital to which Indian patients could be sent. It made it possible to upgrade health care throughout the Area. In effect, the specialists at the Center are in some sense present at every Area service unit. They visit the units on a regular basis diagnosing and prescribing treatment for patients, providing additional training to professional staff as well as to such paraprofessionals as CHRs, checking on patients discharged from the Center.
to recuperate at the local facility. And, in addition to their regular visits, Center specialists are only a telephone call away from the service units. When in doubt regarding a patient, the local medical officer can consult directly by telephone with a Center specialist. The local medical officer is acquainted with the specialist; more important, the specialist is acquainted with the medical officer and with his limitations. Because of this, immediate decisions can be made whether to continue treatment locally or move the patient to Phoenix.

What has this meant to Indian patients in the Phoenix Area? It has meant a quantum jump in the quality of health care. The overriding consideration of all health care is, of course, reducing patient risk. But unlike those IHS areas lacking a major center, the Phoenix Area has been able to take appreciable steps in this direction.

The guiding principle might be termed division of labor. All surgery beyond the most minor, i.e., lump and bump surgery, is done in Phoenix. Why? Because it lowers patient risk. Every surgical procedure involves unknowns; it is impossible to be certain what will be found once the surgeon goes inside. And if unexpected difficulties are encountered, the necessary back-up is available in Phoenix; it might not be at the local unit.

Likewise all difficult births, pediatric and orthopedic problems are handled in Phoenix as are severe medical illnesses. Once again, why? Because it lowers patient risk.

On the other hand, through regular specialist visitations and their telephonic availability, nearly everything else can be handled at local service units or on an out-patient basis at the Center. (The exceptions
to this are (1), where a local service unit is only administrative, or, (2) where a distant local service unit makes use of a nearby contract facility.

The Center system ranks equally high with respect to non-medical factors. It is a modern, superbly equipped hospital; it is clean and attractive; it is very well administered; and, finally, aside from the physicians, it is almost entirely staffed by Indian people. Comments on the Center were elicited from an assortment of Indian people in Phoenix; all were favorable.

One other point in connection with the Center's concern with non-medical factors. Center contract funds are utilized to enable one or two family members to accompany a seriously ill patient from a distant reservation to Phoenix. Not only is transportation covered; food and lodging--the Center has a contract with a large local motel--are supplied.

Amount of Care: The amount of care available to Indian people in the Phoenix Area has increased dramatically since the advent of the Medical Center. For example, there were almost 6,000 in-patient admissions alone to the Center in 1975, of which approximately 3,500 were surgical procedures. Contrast this with a total of 4,558 contract cases in the entire Aberdeen Area in 1974, part of which were out-patient and perhaps 1,500 of which, at the most, were surgical procedures.

In addition to these 6,000 in-patient admissions to the Center--and 100,000 out-patient visits--a large number of contract patients were hospitalized both in the Phoenix Area and at local contract facilities, e.g., Washoe General Hospital in Reno, Nevada, where the local service unit is a great distance from Phoenix.
Far more treatment also took place at local service units. Because of the improvement which has taken place in local units as a result of the Medical Center system, much more care, both in-patient and out-patient, can be delivered locally. Service unit facilities in the Phoenix Area are not simply way stations from which patients are referred to non-Indian contract hospitals. Instead, they are functioning health facilities which are treating very large numbers of Indian people.

Ease of Recruiting Professional Staff: The advent of the Medical Center has also had a dramatic effect upon IHS' ability to recruit medical officers for remote locations. From the standpoint of the newly licensed young doctor, an assignment to a remote location in the Phoenix Area offers not only a challenging medical career, but also an opportunity for additional training. The Center has been accredited by the Arizona State Medical Society as a provider of continuing medical education. (Arizona requires physicians to obtain a certain number of credits of continuing education in order to retain licensure, and physicians going to remote IHS locations in Arizona know that this requirement will be met.)

In addition, and again unlike those IHS areas without a Center, the fact that back-up help is only a telephone call away--or in the case of an unexpected crisis, an airplane flight away--is important to the morale of newly graduated young medical officers. It is also a powerful inducement for recruitment. The new physician knows there will be an opportunity for meaningful medical practice under controlled conditions. The proof of the Center's impact upon recruitment for remote locations in the Phoenix Area is revealed by the fact that the Area does not have staffing problems comparable to other IHS areas.
Likewise, the Center itself has had no problems in recruitment. In contrast to what was mentioned earlier as a recruitment difficulty in connection with mini-centers, specialists recruited for the Center know they will have ample opportunities for interaction with other people in their specialty. They will also be in a position to call on additional specialized consultation; and, finally, they will be in a position to stay abreast of current medical developments in their field. As a result, the Center has had no difficulties in remaining fully staffed or in obtaining residents. Helping contribute to this state of affairs is the Center's connection with medical schools in the state.

The Amount of Care Delivered Locally: The amount and type of care being delivered at local service units has already been described as having increased dramatically since the establishment of the Center. How much care is being delivered at these units? No exact figures are available. But undoubtedly much more care is delivered locally in the Phoenix Area then in the Aberdeen Area. And by care, something other than prescribing aspirin is referred to. The specialist back-up system makes it possible for local service units to go beyond their immediate staff capabilities.

Comparability of Aberdeen and Phoenix Areas: Undoubtedly, it is apparent by now that the establishment of a major Indian Medical Referral Center has had a very dramatic effect on the quality and quantity of health care in the Phoenix IHS Area. Complex tertiary care is being delivered which, to quote the director of the medical center, wasn't even contemplated under the former system; the dollars were not there. Furthermore, the total quantity of care has increased greatly and much more of this care is now being delivered in the local reservation hospitals.
But how does the Phoenix experience fit the Aberdeen Area? Well, it should fit very well. To begin with, the two service areas are roughly the same size geographically. The Phoenix Area provides medical services to reservations as far away as Northern Nevada; the Aberdeen Area serves four states—the bulk of this service being in the Dakotas, of course. Likewise, the size of the service population is very similar in the two areas with each supplying services to approximately 60,000 Indian people. And finally, the two areas are quite similar in terms of the isolation characterizing some of their larger service units; both have service units at remote locations.

Indeed, the only clear-cut difference between the two areas is in terms of climate. The Aberdeen Area is characterized by far more severe winters than at least a good portion of the Phoenix Area. However, while these climate differences would impose some added burden with respect to transportation during the winter season, this burden would not be insurmountable; Dakota winters are cold but there are not that many days during which travel is impossible.

So, overall it would appear that the two areas are quite comparable and that it would not be difficult to duplicate the Phoenix approach in the Aberdeen Area. It also seems highly likely that if this approach were taken, a large medical referral center established in the Aberdeen Area, that the same sorts of benefits Indian people in the Phoenix Area have received would be received by Indian people in the Aberdeen Area.
XI. OBJECTIVES OF AN IHS MEDICAL CENTER

The suggested objectives of an Area Medical Center may include and provide for the Aberdeen Area Indian Health Service:
- a referral center
- a source of consultation services
- a provider of health educational services
- a research center
- provider of primary services

Referral Center

All patients requiring diagnostic or treatment techniques beyond the capabilities of the reservation health delivery systems would be referred to the referral center. The center would be staffed with medical and surgical specialties such as internal medicine, psychiatry, cardiology, gynecology, dermatology, pathology, radiology, tuberculosis, pediatrics, ear, nose and throat, ophthalmology, obstetrics, general surgery, anesthesiology, urology and to provide other sources such as neurology either by staffing or by services from specialists in the medical community.

Consultation Services

All of the medical specialties listed earlier will be available on schedule or on call to the staffs of the other area health facilities for teaching purposes, assistance on individual cases or to hold specialty clinics.

Health Educational Services

Seminars, short courses and conferences will be provided for professional health workers. Also, health education of patients regarding their specific health problems would be provided.
Research Center

The kind of research activities that could be performed will have to be determined in conjunction with a feasibility study.

XII. INDIAN CULTURAL SENSITIVITY ATTITUDES

Attitudes

Many IHS Area Offices seem unaware that cultural differences significantly affect the manner in which health services are provided. Many Indians favor bring medicine men and other traditional Indian health practitioners into the IHS hospitals, and thought it beneficial to increase this practice. In all of the studies of Indians, few have been undertaken to determine the impact of cultural patterns on how the Indian perceives the institution with which they must deal, nor how these institutions can be changed to become more culturally sensitive to the Indian. Indians must take this responsibility since the future change does not provide for this.

Design of Facilities

Most important here is the designing of facilities with Indian cultural characteristics in mind. This has not been put into practice in the past when hospitals and clinics were built. Indian cultural architectural designs would be very appealing to Indians. It would increase Indian acceptance, but it would not camouflage an attempt to lure Indians away from their culture; rather it would portray Indian culture and utilize concepts that make health delivery easier for the IHS and a sort of balance in the two worlds the Indians live.

Location and Site

Probably the most significant aspect is location and site. The methods Indians used in utilizing a building was choice of terrain,
topographical features, hills, valleys, mountains, buttes, location of graveyards, location of water sources, etc. These are some of the things an Indian would look for in building a structure. Of course, engineers and architecture would determine the feasibility. In this evaluation we are dealing with four (4) states and other items such as transportation play an important part.

**Appearance**

The building (hospitals, clinics, etc.) built by the Federal Government are economical square blocks. When Indians look at such a facility they find it foreboding. It is possible to design a hospital and clinic that could be almost all Indian in origin. From the external color to which way the entrance must face is important. The view from the top and side should be culturally adapted, patterned after Indian symbolic designs. The placement of buildings should be harmonious and the visual association of all these parts must be determined like a carefully woven rug, with patterns that are well thought out.

**Internal Features**

Since this is where the IHS health delivery system staff meet at its most important level, that is where contact with the Indian internal features must be acceptable to its users. Some ideas or suggestions are:

1. Color schemes--use colors that are appealing to Indian tribes (this varies)

2. Design features--Indians should find the rooms both comfortable and culturally appealing in color, design and type of furniture.

Indians should be encouraged to participate in, rather than merely be beneficiaries of government spending.
XIII. BASIC REQUIREMENTS FOR A NEW FACILITY

These basic requirements are based on the Phoenix Indian Medical Center, and the in-house task force report. This is only a proposed facility.

OUT-PATIENT DEPARTMENT

30 - 35 Examining Rooms

IN-PATIENT DEPARTMENT

**Operating Suites:**

- Anesthesia Room
- Three (3) General Surgery Operating Rooms
- One (1) ENT Operating Room
- One (1) GU Operating Room with X-Ray
- One (1) Orthopedic Operating Room with X-Ray
- Post Anesthesia Recovery Room - 10 Beds

**Obstetrical Suite:**

- One (1) Delivery Room
- One (1) Surgery Room for "C" Sections
- Two (2) Labor Rooms (One (1) Labor Room for Emergency Delivery)
- Nursery Consisting of Ten (10) Bassinets
- One (1) Isolation Nursery Room

**SURGICAL SERVICE**

- General Surgery 40 Beds
- Orthopedic 20 Beds
- Genito Urinary 10 Beds
- Ear, Nose, Throat 20 Beds
- Obstetrical & Gynecological 10 Beds

**MEDICAL SERVICE**

- Chest Service 20 Beds
- Metabolic 10 Beds
- General Medicine 30 Beds
- Physical Medicine & Rehab 10 Beds
- Detoxification 20 Beds
- Mental Health 25 Beds
- Pediatrics 25 Beds
- General Purpose 10 Beds

**TOTAL BEDS**

...250 Beds
SPECIALTY REQUIREMENTS

Isolation, Intensive Care Bed 10
Infected Burns, Etc. 10
Cardiac Care Unit 5
Neonatal Intensive Care Unit 5
Diagnostic X-Ray 3
Physical Therapy
Inhalation Therapy
Laboratory
Pharmacy
Dietary Department
Health Records
Blood Bank
Morgue

Administration, mechanical, storage, public areas, chapel, etc. will be determined by study after detailed program of requirements if prepared.

COST BASIS

Two-hundred fifty beds (250 x 1200 gross square foot per bed x $121.50 per square foot = $36,450,000.00)

STAFFING

The staffing figures are based on a 250-bed new medical facility covering every specialty. The medical center will do approximately 3,500 surgical procedures per year and approximately 200 deliveries, 75 of which could be complicated. Total staffing would be around 525 - 530 employees and a budget around $10 million per year. Seventy-five per cent (75%) or $7 million will be for salaries.

PERSONNEL NEEDED

Nursing Personnel 325
Janitorial 24
Clerical 10
Health Records 13
Pharmacy 5
Inhalation Therapist 3
EKG Technician 1
X-Ray Technicians 5
Laboratory Technicians 5
Kitchen 25
Public Health Nursing 2

May need augmentation
(Personnel Needed, Continued)

Social Services 5
Physical Therapy 3
Maintenance & Grounds 25
P & S 6
Physicians & Personnel Not Listed Above 66

PHYSICIAN STAFFING

General Medical Officers/Family Practicioners 14
Internal Medicine 2
Pediatrician 2
Psychiatrist 1
General Surgeon 2
Otolaryngologist 1
Obstetrician 2
Pathologist 1
Radiology 2
Psychiatrist 2
Anesthesiologist 2
Nurse Anesthetist 3
Dentist 5

ADDITIONAL NEEDS

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<thead>
<tr>
<th>Positions</th>
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<td>525-530</td>
<td>$10,500,000.00</td>
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Less: Existing Resources - 80
TOTAL NEED: 450

XIV. FUNDING ALTERNATIVES

Public Law 85-151 Funds

Public Law 85-151 does not appear suitable because the Act is primarily designed to aid private institutions in the provision of inpatient facilities and services. This funding mechanism does not include financial assistance in the provision of a comprehensive health care delivery system.

Tribal Construction of a Medical Center

The tribal groups do not possess the financial resources to undertake such a project.
Direct Indian Health Service Construction

This approach cannot be justified on cost factors alone. The benefits of providing an Indian oriented health care delivery system cannot be accurately measured by cost-benefit or patient days. Improvements in the total level of health, a reduction of debilitating conditions, improved level of utilization of health services and a general improvement of the total environment will be the direct results of a health care system operated solely for the benefit of the Indian people. This method is the preferred method of establishing a medical center in the Aberdeen Area.
RECOMMENDATIONS
The data submitted in the body of this report demonstrates the intensity of the need for improved health services for the Indian people of the Aberdeen Area. Also indicated is that the Indian people know themselves that necessary measures must be taken, and that they have suggested what these measures are. Based on the findings of the report, and the preferences stated by the population served by the Aberdeen Area Indian Health Service, the following recommendations are urged.

1. We recommend that the Evaluation project be continued and that a Phase III of the project be entered into.

2. We recommend that necessary steps be taken to bring the health status of the Indian people in the Aberdeen Area to a level comparable to that enjoyed by the general population.

3. We recommend that Indian Health Service be responsive to the stated preferences of the Indian people of the Aberdeen Area—namely, that a Major Medical Referral Center be established in the Aberdeen Area.

4. We recommend further that the Major Medical Referral Center be a separate appropriation and that in no way will funding for present service units or funding for contract care monies be cut.

5. We recommend that the location for the Medical Center be determined in accordance with Tribal preferences.

6. We recommend that provision in the appropriation for such a Medical Center allow for transportation to and from the Center from the local service unit areas.
7. We recommend that the Major Medical Referral Center be fully staffed and that the objectives of the Medical Center be four-fold:
   a. To serve as a referral center
   b. To serve as a source of consultation services for the staffs of the other area health facilities.
   c. To provide health educational services.
   d. To serve as a research center.

8. We recommend that the Medical Center take into consideration all cultural values of the people it will serve.