

The 2021 Indian Health Service and Tribal Health Care Facilities' Needs Assessment Report to Congress



This report assesses the capacity, condition, and needs of the IHS health care facilities required to ensure crucial access to health care services for people long burdened by health disparities.

December 2020

The Congress has stated that a

“major national goal of the United States is to provide the resources, processes, and structure that will enable Indian tribes and tribal members to obtain the quantity and quality of health care services and opportunities that will eradicate the health disparities between Indians and the general population of the United States.”

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Executive Summary

The Indian Health Care Improvement Act (IHCIA) (25 U.S.C. § 1631 et seq.) requires the Secretary for the Department of Health and Human Services (HHS) to submit to the Committee on Indian Affairs of the Senate and the Committee on Natural Resources of the House of Representatives an updated report every five years on the health facilities needs of the Indian Health Service (IHS), Indian Tribes and Tribal organizations, and that this report be developed in collaboration with the Facilities Needs Assessment Workgroup and the Facilities Appropriation Advisory Board (FAAB).¹

American Indian and Alaska Native (AI/AN) people have long experienced lower health status when compared with other Americans. AI/AN people born today have a life expectancy that is 5.5 years less than the U.S. all races population (73.0 years v. 78.5 years, respectively). The lack of adequate facilities from which to deliver care delays the closing of this health status gap. Additionally, the COVID-19 pandemic has demonstrated the acute need for increased access to care and the ability to respond.

This Report to Congress finds the following:

- Overall health care facility construction need grew from \$14.5 billion in 2016 to \$23 billion in 2021, a 59 percent increase.
- The Health Care Facility Construction (HCFC) funding has only averaged \$194 million annually since the last report was submitted to Congress.
- The fiscal year (FY) 2020 funding for HCFC provided only 1.8 percent of the need identified in the 2016 Report to Congress.
- At the current average rate of appropriations, a new facility opening in FY 2021 would not be replaced until FY 2311 - 290 years.

Figure 1: Indian Health Service and Tribal Health Care Facilities' Needs Summary

	A	B	C	D
	IHS Facilities Appropriation Line Item	FY 2020 Appropriation	Sustainable Program Annual Funding Need	2021 Total Health Facility Need
1	Maintenance & Improvement	\$169M	\$536M	\$3.1B
2	Sanitation Facilities Construction			Reported separately
3	Health Care Facilities Construction	\$259.3M	\$750M	\$23.0B
4	Facilities and Environmental Health Support			Staffing need not part of report scope
5	Equipment	\$28.1M	\$125M	\$454M
	TOTAL	\$456.4M	\$1.411B	\$26.6B

This report presents an estimate of the IHS health care system facilities' needs. The term "IHS" as used in this report refers to this IHS system and includes the IHS Direct Service, Tribes, and Tribal organizations' health care facilities.² The needs shown in Figures 1 & 2 display the total cost by the IHS facilities appropriation line item and by space (square feet) and capital costs by the IHS Area and state. These facilities' needs estimates identify the amount of physical space and capital resources for the IHS to uphold the federal government's obligations in eliminating health disparities and providing access to comprehensive, high quality, and culturally competent care.

Figure 2: 2021 New and Replacement Facility Need and Estimated Costs Summary

IHS Facility Need by Area			IHS Facility Need by State		
IHS Area	Medical Space (thousand square feet)	Total Need (in millions)	State	Medical Space (thousand square feet)	Total Need (in millions)
Alaska	3,530	\$4,400	AK	3,530	\$4,400
Albuquerque	1,570	\$1,115	AL	10	\$7
Bemidji	1,460	\$1,173	AZ	4,460	\$3,726
Billings	1,630	\$1,443	CA	2,190	\$1,856
California	2,070	\$1,777	CO	140	\$93
Great Plains	2,050	\$1,785	CT	70	\$54
Nashville	1,060	\$751	FL	110	\$75
Navajo	3,240	\$2,564	IA	40	\$24
Oklahoma	4,220	\$2,850	ID	340	\$247
Phoenix	2,770	\$2,292	KS	210	\$149
Portland	2,910	\$2,363	LA	80	\$47
Tucson	600	\$487	MA	50	\$48
TOTAL	~27.1 million	~\$23 billion	ME	130	\$93
			MI	200	\$149
			MN	760	\$654
			MS	50	\$32
			MT	1,350	\$1,198
			NC	80	\$47
			ND	750	\$681
			NE	140	\$121
			NM	2,980	\$2,139
			NV	360	\$311
			NY	300	\$227
			OK	3,980	\$2,679
			OR	780	\$654
			RI	10	\$5
			SC	60	\$43
			SD	1,120	\$959
			TX	70	\$45
			UT	110	\$107
			VA	80	\$56
			WA	1,780	\$1,461
			WI	500	\$369
			WY	280	\$245
			TOTAL	~27.1 million	~\$23 billion

Highlights of this report:

This report details the capacity, condition, and needs of the IHS health care facilities required to ensure crucial access to health care services for people long burdened by health disparities. In order to provide the best quality care, facilities need to be accessible, properly maintained, and provided with modern medical equipment. At the current levels of funding, the IHS facilities will continue to age and deteriorate, which will compromise the ability of the IHS to meet the health care needs of AI/ANs as intended in the IHCIA's national declaration of Indian health policy (25 U.S.C. § 1602). With increased and adequate funding, this pattern can be reversed.

The need is enormous

The existing space of the IHS health care facilities is approximately half of that required for serving the AI/AN population. Estimated costs to construct the replacement and new space total \$23 billion in 2021 compared to \$14.5 billion reported five years ago, an increase of 59 percent. Since the last report (2016 to 2020), HCFC funding has averaged only about \$194 million annually. This rate, while higher than the last report period, remains disproportionately low. The overall facilities space need has accumulated over many years. The accelerating obsolescence will further compromise services as the AI/AN population continues to grow faster than the facility capacity to serve it.

Much has been accomplished

With a high of \$260 million in FY 2020 federal new construction appropriations, and a 5-year report period average of ~\$194 million annually, activity has occurred on 32 awarded projects in 10 of the 12 IHS Areas. This work resulted in the completion of 11 major health care facilities (1,283,400 square feet at a total cost of \$766.9 million) and planning, design, and/or construction progress on 21 more (874,300-square-feet of construction at a total cost of \$642.4 million) during the report period under the three construction programs. Funding for new construction and the Small Ambulatory Program totaled \$969,289,000, with 7 facilities completed (300,800 square feet) and an additional 18 facilities under planning, design, or construction/contract award (760,900 square feet). For Joint Venture, the Tribes committed \$644,714,200 in project funding and completed four facilities (913,600 square feet), with three more in progress (113,400 square feet). Between the three programs, approximately 2.2 million square feet of new and replacement space is being added to the IHS health care system.

Much remains to be done

In 1992, the IHS established its current new construction priority list. Of the original 27 facilities on the list, 29 years later, seven remain to be fully funded. The IHS hospitals now average 39 years of age, over three times older than the average age of U.S. not-for-profit hospitals (11.5 years³). Aging facilities risk code noncompliance, lower productivity, and compromises for health care services. At the current report period construction appropriations rate, the average age of the IHS facilities will continue to greatly increase. At the existing replacement rate, a new 2021 facility would not be replaced for 290 years*. Existing space in the IHS facilities (20.7 million square feet) is substantially less than the required ~40.5 million square feet for the projected 2030 AI/AN user population. An additional 6.2 million square feet of the existing 20.7 million square feet is in immediate need of major renovation. Insufficient

* Assumes that 16.0 million square feet of existing space needs replacement; funding adjusted for inflation; 22 percent of the construction funding is for replacement; and current average cost is (\$780/square foot) (16.0 million square feet)/[((\$194 million/year)(0.22)/\$780/square foot]=~290 years

capacity and resources severely restrict health care services that can be provided. Unless these needs are addressed, the growing AI/AN population and gradual deterioration of older space will contribute to a growing health care need that cannot be met with inadequate facilities.

The initial capital investment (CI) in construction and/or major renovation of a facility spread across a 60-year design life are only a small portion of annual operating costs. Most CI projects provide a return that exceeds the investment. Health care is labor-intensive, accounting for 60 to 75 percent of annual operating expenses. Consequently, a modern facility layout that increases workforce productivity can lower overall costs in the long run.⁴ Similarly, improvements in facilities and ongoing maintenance reduce total life-cycle costs and extend facilities' useful life with a relatively small upfront investment.⁵

Access to health care in or near AI/AN communities is key

The facilities of the IHS network are widely dispersed among 37 states in approximately 660 locations. Some 600 of these health care delivery campuses are located on or near AI/AN communities, where travel can be difficult, especially where transportation options are unavailable or limited by long distances and harsh climatic conditions. For most of these rural communities, the IHS and the Tribal health care campuses offer the only feasible source of health care services as alternatives are few or non-existent. Practical access to local health care sites is crucial for the AI/AN population, which is burdened by low health status compared with other Americans. These 600 campuses comprised of over 850 major health care buildings and 1,000 program support buildings, are supported through the IHS Facilities Appropriation, and are the focus of this report. The Urban Indian Health Program locations are reported separately.

A sustainable maintenance & improvement program is crucial

During a facility's operating life, routine maintenance, building major systems repair/replacement, and improvement (renovation/modernization) is required to consistently deliver the best medical care. Inadequate maintenance results in waiting to replace a part or system until it fails, which often will end up costing an organization the expense of the replacement squared in additional costs and lost revenue. Industry best practice points to 6.4 percent of current replacement value (CRV) as the level of funding necessary to sustain an adequate level of service. This includes routine maintenance, non-routine maintenance, and maintenance that has been delayed due to lack of funding (3.4 of the 6.4 percent). In addition, during the 60-year life of a medical building, one major renovation is assumed to occur at or near 30 years of service. The remaining three percent of CRV annual expense accounts for major renovations to those facilities across the portfolio, that reach 30 years of service. For the IHS, 6.4 percent of CRV would require an annual appropriation of ~\$536 million. The FY 2020 funding for maintenance and improvement (M&I) was ~\$167 million or 1.9 percent of the eligible IHS health care facilities' CRV. The 2021 total M&I need is estimated at \$3.1 billion. For more information, see [page 14](#).

Introduction

The IHCIA statement of Congressional findings (25 U.S.C. § 1601) explains in its first two provisions:

“The Congress finds the following:

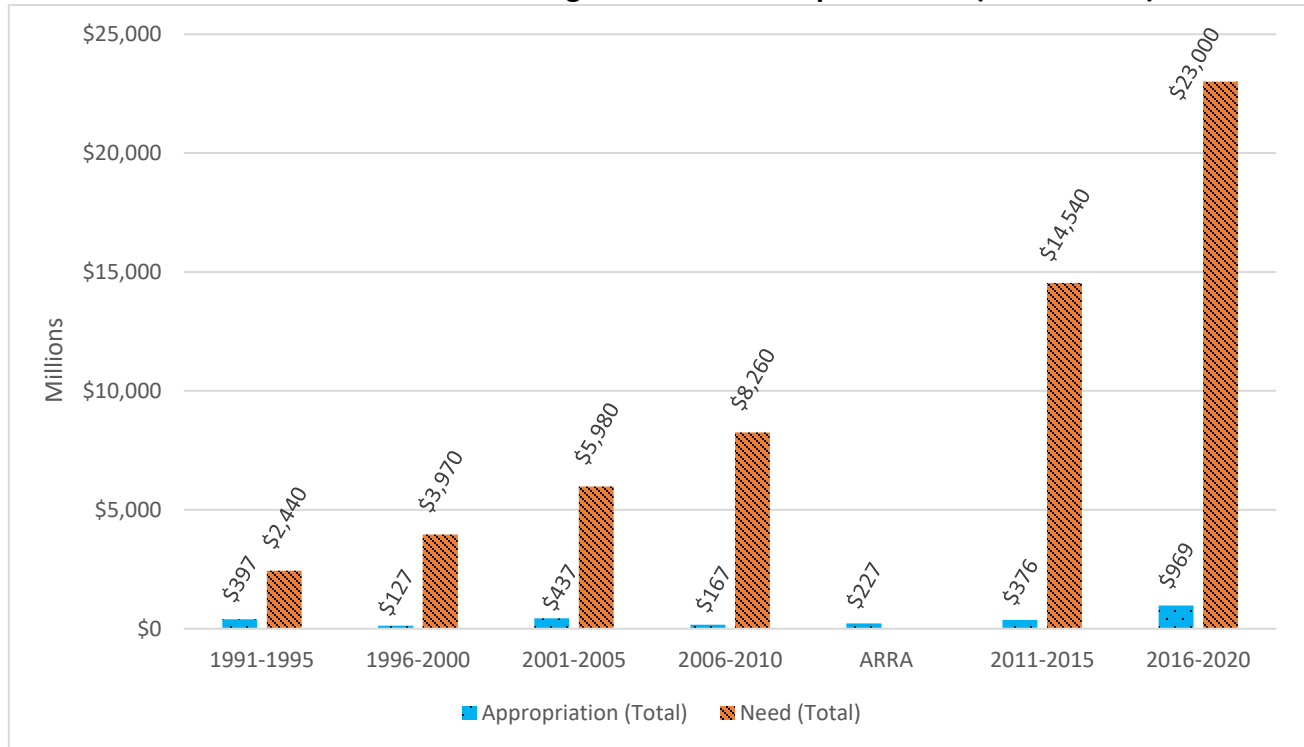
- (1) Federal health services to maintain and improve the health of the Indians are consonant with and required by the Federal Government’s historical and unique legal relationship with, and resulting responsibility to, the American Indian people.
- (2) A major national goal of the United States is to provide the resources, processes, and structure that will enable Indian tribes and tribal members to obtain the quantity and quality of health care services and opportunities that will eradicate the health disparities between Indians and the general population of the United States.”

The IHCIA (25 U.S.C. § 1631 et seq.) requires the Secretary for the HHS to submit to the Committee on Indian Affairs of the Senate and the Committee on Natural Resources of the House of Representatives an updated report every five years. This report describes the comprehensive, national summarized needs of the IHS, Indian Tribes, and Tribal organizations. It also addresses the IHS commitment expressed in the strategic plan for 2019-2023 “to modernize health care facilities and staff quarters to expand access to quality health services, in consultation with tribes.” Included are inpatient health care facilities, outpatient health care facilities, specialized health care facilities (such as for long-term care and alcohol and drug abuse treatment), wellness centers, and staff quarters. The initial report was submitted in 2011. This report is the second update and includes additional information on medical equipment and facility operations support.

Throughout this document, use the following as reference:

Activities of daily living	=	ADL
American Indian/ Alaska Native	=	AI/AN
Backlog of essential maintenance, alteration, and repair	=	BEMAR
Current replacement value	=	CRV
Capital investment	=	CI
Department of Health and Human Services	=	HHS
Facilities Budget Estimating System	=	FBES
Facility Appropriation Advisory Board	=	FAAB
Health Facilities Data System	=	HFDS
Health system planning	=	HSP
Indian Health Service	=	IHS
Indian Health Care Improvement Act	=	IHCIA
Joint venture	=	JV
Maintenance and improvement	=	M&I
New construction	=	NC
Service unit	=	SU
Small ambulatory program	=	SAP
University of Oklahoma Formula	=	UOF
Youth Regional Treatment Centers	=	YRTC

Figure 3: Sum of Health Care Facilities Appropriations for New Construction During Each Report Period vs Total Need Remaining at End of Each Report Period (in \$ Millions)



This report was updated in collaboration with the FAAB. The report’s estimated cost and space requirements were determined using the same approach and data sources (updated) as in the 2016 report including the IHS standard planning criteria, detailed in the Tribal and the IHS planning documents, and the IHS FBES. The scope of the report was expanded to all health care facilities line items in the Facilities Appropriation. In previous reports, only the new construction line item was presented. This report includes, in addition to new construction, the M & I and medical equipment line items for the first time.

This report shows assessed need, which is an estimate of need for planning level use. Before any project is approved and funded, it undergoes refined planning, risk assessment, input from integrated project teams, approvals (Tribe, IHS, local, state, participating agency, etc.), environmental clearances, and strict acquisition and project management requirements that yield the final project scope, budget, and schedule.

This report presents an estimate of the IHS health care system’s facility needs. The term “IHS” as used in this report refers to this IHS system and includes the IHS Direct Service, Tribes, and Tribal organization’s health care facilities.⁶ The resource “need” is shown in terms of space (square feet) and capital costs by the IHS Area and state. This data is essential to the CI planning, budgeting, prioritizing, and decision-making processes. These facilities needs estimates are the amount of physical space and capital resources necessary to uphold the federal government’s obligations in eliminating health disparities and providing access to comprehensive, high quality, and culturally competent care.

A Crucial Facilities Network Providing Health Care

The IHS health care network has approximately 850 major health care buildings and over 1,000 supporting buildings and structures that provide crucial access to health care services for 2.6 million AI/AN people. Approximately 1.6 million AI/AN people actively use the IHS facilities. The remainder do not regularly access the IHS facilities for reasons that vary; distance and access to care, lack of needed services, waiting lists, limited capacity, insufficient staff, and access to available non-IHS facilities.

Meaningful access

Meaningful access to care would ensure that AI/AN people get to “the right provider, at the right time, at the right place.”⁷ Meaningful access is fully realized when necessary health care providers and resources are paired with appropriate health care facilities located within practical travel distance from AI/AN communities.

Local access

Practical local access to health care sites providing comprehensive health care services is vital for the AI/AN population. AI/AN people born today have a life expectancy that is 5.5 years less than the US all races population (73 years to 78.5 years, respectively).⁸ They continue to die at higher rates than other Americans from diseases such as chronic liver disease and cirrhosis (some cases are result of chronic alcoholism, obesity, and exposure to Hepatitis B and C viruses), diabetes mellitus, unintentional injuries, assault/homicide, intentional self-harm/suicide, and chronic lower respiratory diseases.



Figure 4: Tribal elder receives a health assessment.

Figure 5: Comparison of 2009-2011 AI/AN Death Rates to 2010 US all Races Death Rates⁹

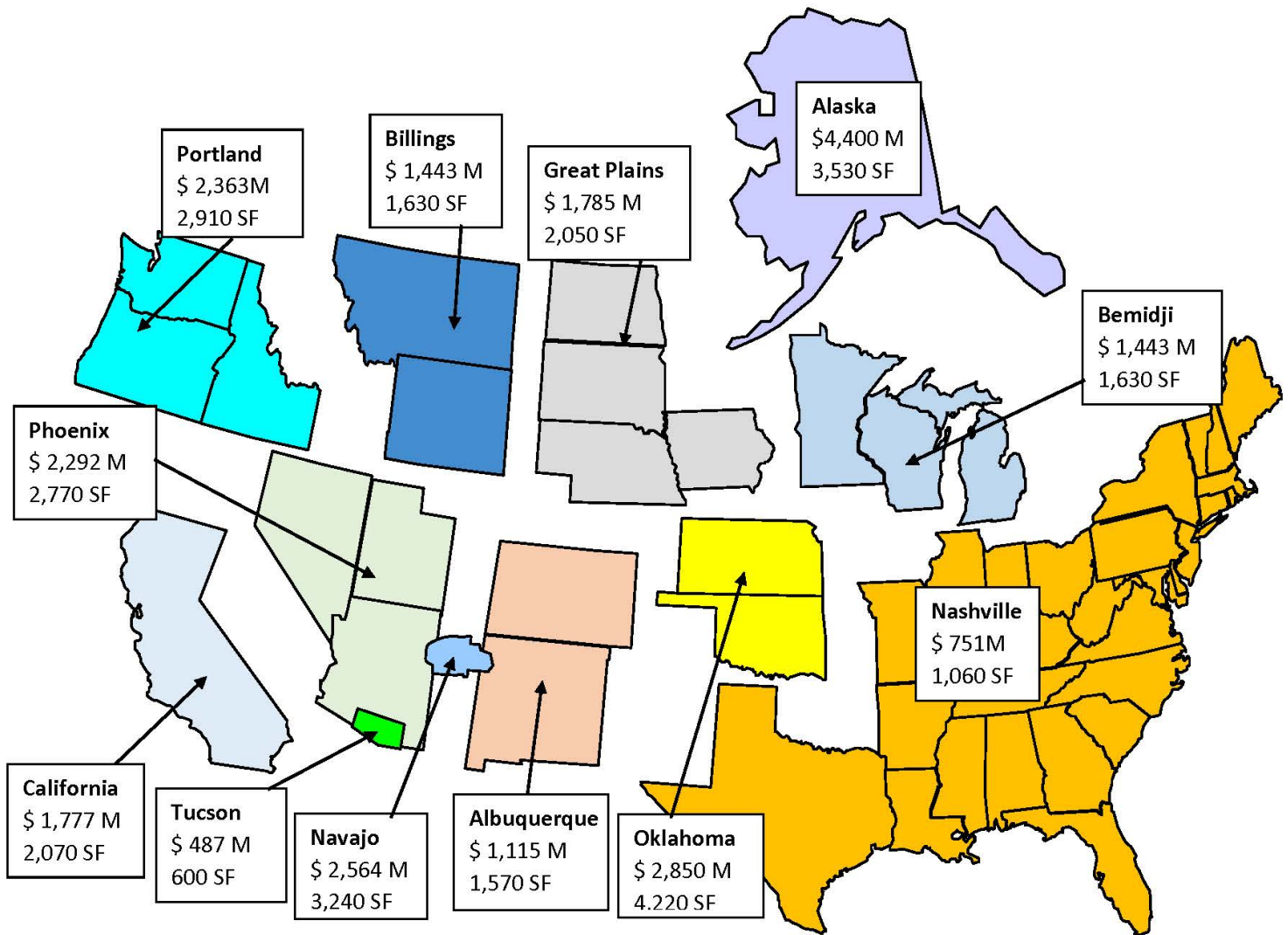
Alcohol related	660 percent greater
Chronic liver disease and cirrhosis	460 percent greater
Diabetes mellitus (diabetes)	320 percent greater
Accidents (unintentional injuries)	250 percent greater
Influenza and pneumonia	180 percent greater

Health care services, accessible when and where they are needed, are essential to reduce and eliminate persistent health disparities that burden AI/AN people. The IHS’s facility network is primarily located in Indian communities remote from other private and public health care

sources. In FY 2018, the IHS facilities provided care for over 40,000 hospital admissions and almost 14 million outpatient visits. Due to long distances and difficult travel, many of these services would not have been available otherwise.

The Figure 6 map displays the IHS facility space and resources needed to serve widely dispersed AI/AN populations.

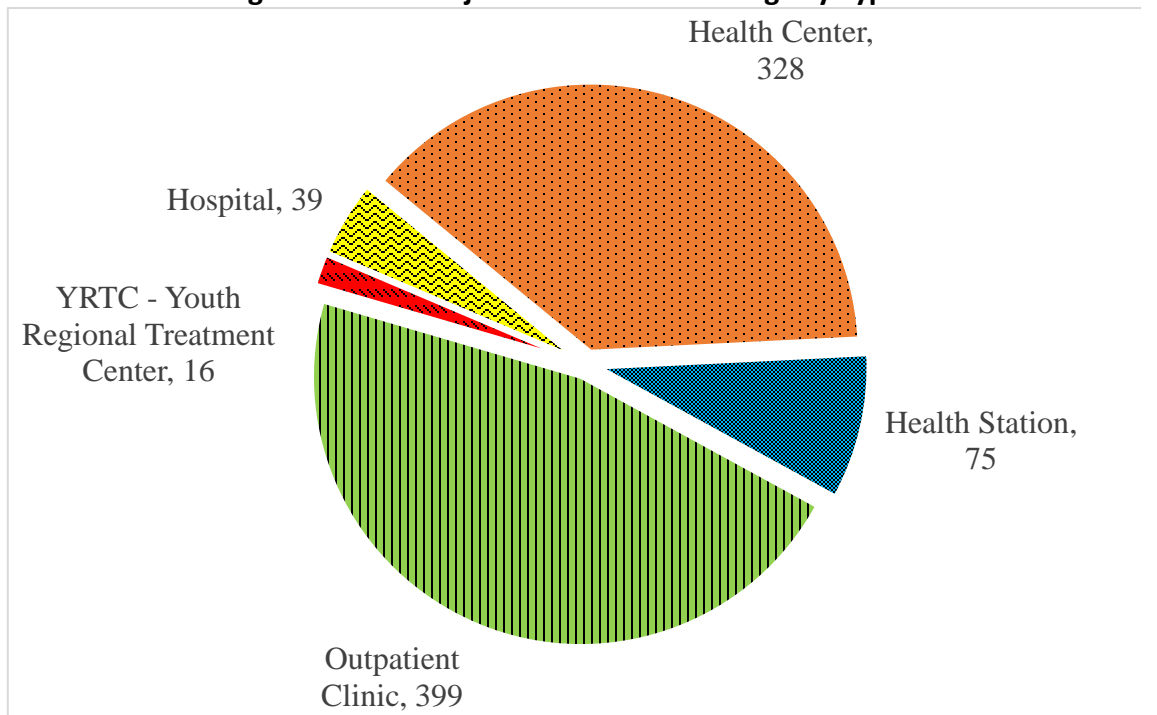
Figure 6: IHS Facilities' Need by Area and Square Feet



Aging Infrastructure and Increased Population

The IHS facilities vary widely in age, capacity, design, and function. Some buildings were constructed decades ago before the modern era of medical practice, standards, and codes. Some of the oldest facilities continue to be used well past their expected useful life; they are overcrowded, and were not designed to deliver modern health care services that newer facilities can provide. By contrast, newer IHS facilities are designed for state-of-the-art medical practice, such as patient/family center models of care, and are eligible for more funding opportunities. The newer facilities' internal configuration are better designed, which results in improved productivity and patient flow.

Figure 7: IHS Major Health Care Buildings by Type



Increased Population

In 1992 when the IHS health care facilities new construction priority list was established, the AI/AN services population (1990 census) was 1.2 million. Today ~25% of initial projects on that 1992 priority list remain incomplete and no new projects have been added, yet the service population has more than doubled to 2.6 million. Lack of space restricts the medical services that can be provided and also limits patient access. In the delivery of modern health care services, there are two major factors considered in space planning:

- Type and array of medical services to be provided
- User population

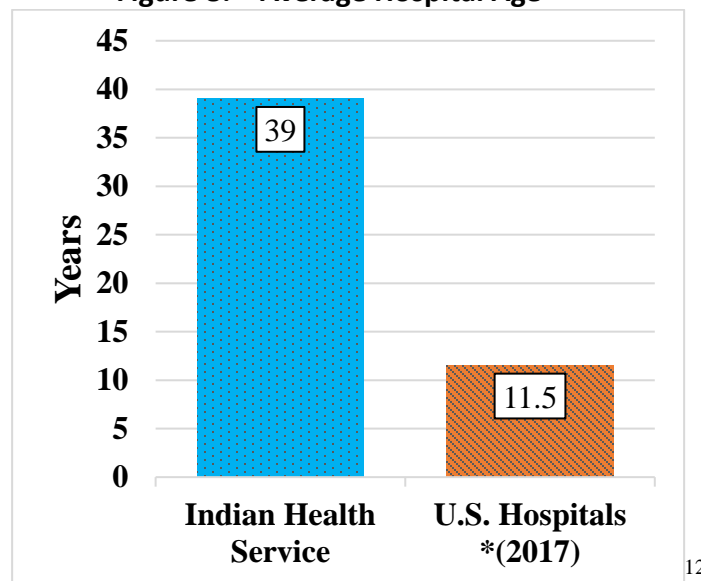
The IHS defines the user population as AI/AN people who have used the IHS services at least once during the last three-year period according to their community of residence. In 1990, the IHS user population was 1.1 million. Today the user population is 1.6 million, an increase of 55 percent. The service population is the U.S. Census of Native Americans from a specified area. The service population growth rate is used to project the user population. The projected user population is used to calculate the facility need. The increase in active users is less than half of the service population increase.

Adequate access to care is a key factor in the effective delivery of care. The AI/AN people have long experienced lower health status when compared with other Americans. The AI/AN people born today have a life expectancy that is 5.5 years less than the U.S. all races population (73.0 years to 78.5 years, respectively). The lack of adequate facilities from which to deliver care delays the closing of this health status gap.

Aging infrastructure

The IHS health care network has approximately 850 major health care buildings and over 1,000 supporting buildings and structures. Replacement and modernization in the IHS network has emphasized outpatient care. The outpatient space ratio to inpatient space is higher because the IHS hospitals also provide outpatient services. Expanding and modernizing outpatient space parallels a similar trend in American medical practice. Although the IHS facilities network is sprinkled with modern replacements, especially ambulatory care facilities, the replacement rate is not meeting needs. The American Hospital Association recommends a useful life of 40 years for masonry and steel health care facilities (hospitals, YRTC and health centers) and a useful life of 25 years for masonry, wood, and steel health care buildings (outpatient clinics and health stations). Over 220 major health care buildings in the IHS health care system currently report exceeding these standards.¹⁰ The IHS hospitals, which now average 39 years of age, are more than three times older than U.S. not-for-profit hospitals in general (11.5 years of age¹¹).

Figure 8: Average Hospital Age



The IHS has conservatively set a building design life planning goal of 60 years. With 20.7 million square feet of existing building space, meeting this goal would require an average existing space replacement rate of 340,000 square feet per year. During this five-year report period, 2.2 million square feet were constructed, 22 percent of that was replacement space. This yields an average annual existing space replacement rate of 97,000 square feet, well below sustainable program requirements.

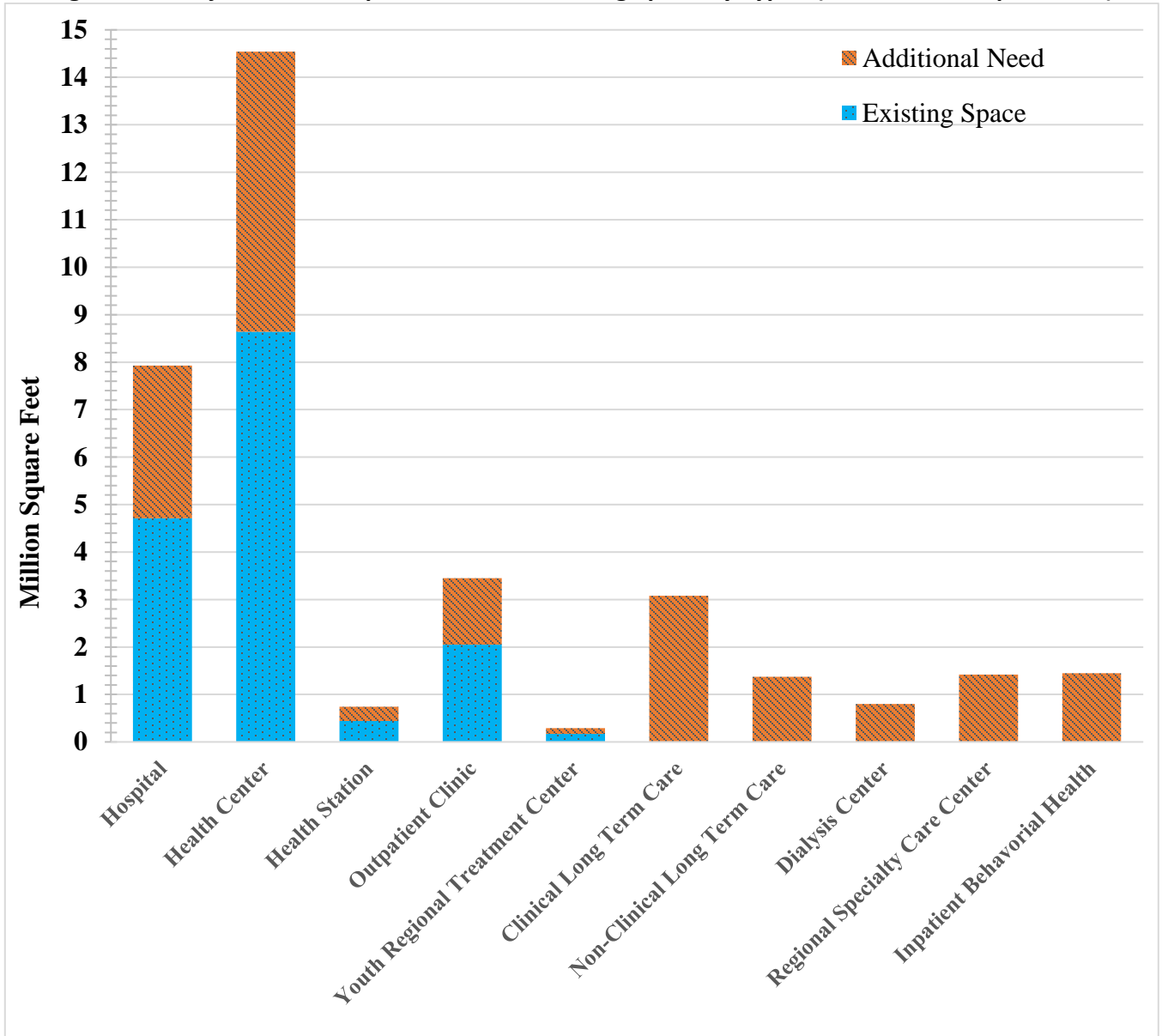
Figure 9: Ten Oldest Major Health Care Facilities in the IHS Health Care Network

Age (yrs)	Area	Facility Type	Facility Name	City	State
136	BI	Health Center	Fort Washakie Health Center	Fort Washakie	WY
121	BE	Health Center	Naytahwaush Health Center	Naytahwaush	MN
112	AQ	Hospital	IHS Santa Fe Indian Hospital	Santa Fe	NM
111	CA	Outpatient Clinic	Mathiesen Memorial Health Clinic	Jamestown	CA
106	BE	Health Center	Munising Health Center	Munising	MI
92	AK	Outpatient Clinic	South Naknek VBC	South Naknek	AK
91	PH	Health Center	PHS Indian Health Center	Schurz	NV
90	TU	Health Center	San Xavier Health Center	San Xavier	AZ
89	BI	Health Center	PHS Indian Health Center	Hays	MT
89	BI	Health Center	PHS Indian Health Center	Wolf Point	MT

Aging medical facilities impede medical innovation. Modern hospitals are packed with complicated equipment with high electrical utilization and connected by a maze of wires and cables. Newer hospitals are built with large interstitial space between floors for wiring and equipment; older hospital buildings do not have this space factored into their layout. In addition, older hospitals typically have thick concrete walls, which tend to absorb Wi-Fi signals, representing a significant challenge to the adaptation of wireless technology. They are also less attractive as workplaces for staff, negatively impacting employee hiring and retention.

Modern, well-designed facilities play a major role in preventing health care-related injuries. For example, patient rooms designed with appropriately located grab bars, clear pathways, and overhead patient lifts help prevent injuries to patients and caregivers. Good air quality, which results from well-designed and well-maintained ventilation systems, can prevent the spread of pathogens and facilitate healing. In addition, designs that emphasize a decentralized nursing staff can also result in more responsive patient care. Illustrating the power of these construction and design changes, the University Medical Center of Princeton at Plainsboro in New Jersey saw its patient falls, infection rates, and 30-day avoidable readmissions drop to the lowest in the state after it was renovated with patient-centered elements in 2012.¹³

Figure 10: Major Facilities Space Need and Existing Space by Type* (in millions of square feet)



* As reported in the IHS HFDS

Staff quarters

Staff quarters (housing) have become a key component of the IHS provider staffing challenges. Routine and non-routine maintenance as well as renovation expenses are covered through rent collections. However, quarters are aging to a level where the major repairs are required and replacement expense are above the funding amounts collected through the rental rate system. Approximately two-thirds of existing quarters are over 30 years old. Forty-two of the 206 IHS SU have existing quarters totaling 1,450 units and 3.3 million square feet. These units and their square footage are not included in the program buildings (major health care building and supporting structures) count.

Quarters shortages are rampant throughout remote locations on Tribal land. Existing health care facilities are continually expanding services to provide and meet the current health care standards. Those service expansions require additional staff and housing often in areas with few available units in the private sector. Only two of the 42 SU have adequate numbers of quarters

units, with the remaining 40 SU averaging a shortfall of 50 percent of currently needed quarters space. This assumes 100 percent of existing quarters are still habitable, which may be too optimistic.

Due to the lack of housing in isolated areas, both in government and the private sector, the hiring of staff is difficult. Housing is a major recruiting tool, and the lack of housing inhibits the remote health care facilities from hiring permanent staff. In lieu of hiring permanent staff, the health care facilities rely on contract staff who also need transient housing. Many remote locations are seeing the increased need in transient-type living arrangements to adapt and provide flexible living for staff working locally, but living permanently, in adjacent larger communities.

Most existing locations with staff housing have never been provided with a sufficient number of units. Recently completed major medical facility projects have included three times the amount of historically provided staff housing. In these newer projects, transient and one-bedroom units in multi-unit buildings represent between 15 to 44 percent, with an average of 32 percent, of the newly constructed quarters. The staff quarters need in support of existing facilities is estimated to be 8.3 million square feet of space at a cost of \$2.3 billion to accommodate the expanding health care demand and workforce. The cost of this need is integrated into the replacement and new program space requirements of the 42 remote SU currently requiring staff quarters.

Medical equipment

Medical equipment reliability declines as equipment ages. Medical and laboratory equipment, which has an average useful life of approximately six years, are used over twice as long in the IHS facilities. In FY 2020, the funding for medical equipment was \$28.1 million. Potential consequences, such as service disruptions and facility downtime, are compounded in isolated rural settings where many of the older IHS facilities are located.

The IHS and Tribes manage approximately 90,000 biomedical devices valued at approximately \$500 million requiring routine maintenance, repair, and replacement on an average six-year schedule. These are a diverse array of devices consisting of laboratory, medical imaging, patient monitoring, pharmacy, and other biomedical, diagnostic, and patient equipment. Reliable equipment is especially important in the isolated settings where most of the IHS care is delivered.

Medical equipment funds provide for:

- Maintenance and repair of existing medical devices
- Limited replacement of outdated equipment, with a goal of a six-year average replacement schedule
- Initial purchase of equipment for Tribally-constructed health care facilities
- Leasing of ambulances for the emergency medical services programs

Medical device management has become complex as a result of increased sophistication and specialization of equipment, integration with electronic health records, expansion of services into telemedicine, and increasing requirements for compliance, safety, reliability, and accuracy. Many health care services require special medical equipment to meet their mission. Renewal is necessary to replace outdated, inefficient, and unsupported equipment with newer electronic health record-compatible equipment to enhance speed and accuracy of diagnosis and treatment.

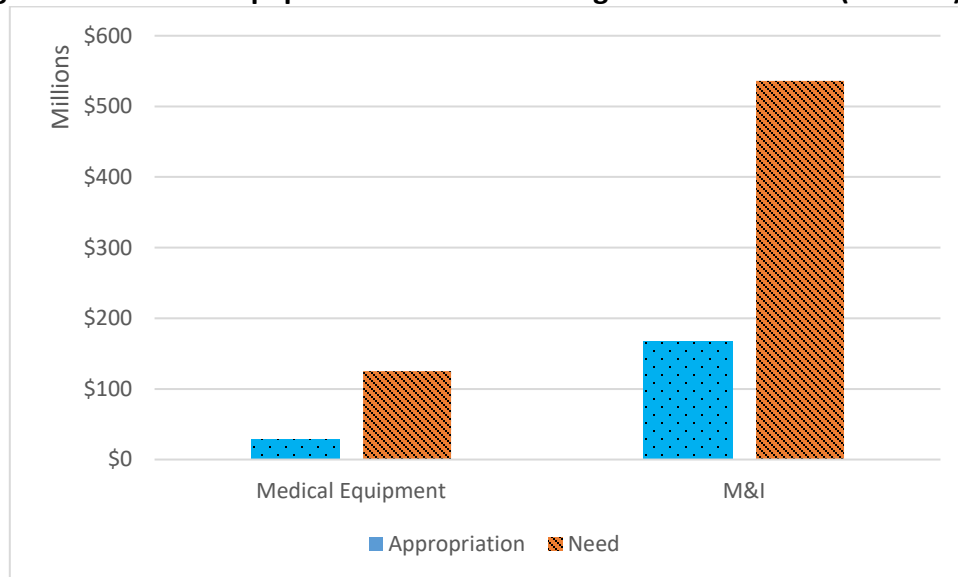
The \$28.1 million FY 2020 medical equipment funds includes:

- \$5 million to support the initial purchase of equipment for Tribally-constructed health care facilities;

- \$500,000 to acquire excess medical equipment from Department of Defense or other sources through Project TRANSAM, a Civilian-Military Cooperative Action Program concerning distribution of medical equipment and supplies obtained from the closure of military bases as well as other sources such as the GSA Excess program; and
- The remaining amount funds medical equipment in support of existing IHS and Tribal programs.

A fully funded, sustainable IHS equipment program is estimated to cost \$125 million annually. The FY 2020 funding for medical equipment was \$28.1 million. The current total medical equipment need is \$454 million.

Figure 11: Medical Equipment and M&I Funding vs. Annual Need (FY 2020)



Maintenance and improvement

Facility aging has increased costs and risks associated with maintenance and repairs. This trend is accelerating as maintenance and repair deficiencies could not be fully corrected because the M&I budget was insufficient. The current reported BEMAR is \$767 million. There is concern that this number is under reported by facility managers due to the limited amount of funding available for such projects.

When a facility is unable to keep up with its maintenance needs, the risk of failure increases. For example, to balance the budget, the informed decision is made to defer maintenance on an aging elevator system to save money. When the elevator suddenly stops working, the consequent financial damage and lost productivity results in being many times greater than the cost the hospital would have incurred had it not deferred maintenance on that elevator. In fact, one report has calculated that waiting to replace a part or system until it fails will end up costing an organization the expense of the replacement squared. For example, if a hospital decides to defer maintenance on an aging water heater to save \$500, it may end up costing \$250,000 when the water heater leaks through the floor and damages adjacent floors and walls.¹⁴

In alignment with industry practice, a sustainable IHS M&I program for maintenance, repair, and renovation of medical facilities is estimated at 6.4 percent of the CRV of the eligible IHS building inventory. Within the IHS M&I system, about 1.2 percent is currently allocated to routine/non-routine maintenance through the University of Oklahoma Formula (UOF) methodology, and 2.2 percent to deferred maintenance. This is equivalent to 20 percent of the

BEMAR. Industry practice would allocate the remaining 3 percent to major renovations. Based on industry practice, for the IHS building inventory, the annual M&I need is \$536 million. The FY 2020 funding for M&I was \$169 million or 32 percent of need. The 2021 total M&I need is \$3.1 billion.¹⁵ Adequate funding is essential to ensure functional health care facilities that meet building/life safety codes, conform to laws and regulations, and satisfy accreditation standards.

Modern, Patient-Centered, and Culturally-Appropriate Services

Contemporary layout

In addition to being too small for the current user population, the older IHS facilities were constructed before the advent of contemporary models of patient care. Modern health care delivery practices require suitable layouts of facility space. The older IHS facility architecture and internal layout was based on simplistic, outdated notions, which impede efficient delivery of modern services.

Patient/family centered care model

When an IHS facility is replaced, its internal layout, configuration, and infrastructure are designed for flexibility, including a patient/family centered care model and modern technology. The patient/family centered care model can be greatly enhanced by incorporating supporting facility design features. The patient/family centered approach is founded on therapeutic relationships between all care providers, patients, and family.

Design with respect for Tribal culture, traditions, and health care practices

The physical design of replacement facilities blend evidence-based design principles with Tribal culture and traditions to enhance effectiveness of health care services. The IHS facility designs respect Tribal culture, traditions, and health care practices. Beliefs concerning illness affect how, what, and when health care is sought. Cultural competence is vital to effectively assess health issues of AI/ANs. Understanding a patient's cultural norms and practices builds trust, rapport, and enhances patient adherence to medical instructions. The IHS combines the Patient/Family Centered, Medical Home model with culturally appropriate practices to provide safe, efficient, effective, timely, and equitable care.

New and replacement facility architecture and design incorporate physical features such as natural light, optimal acoustics, suitable textures and surfaces, and efficient layout, to enable and enhance a patient/family centered healing environment.¹⁶ The health care physical environment has long been recognized as having a substantial bearing on the care experiences and patient outcomes. There is overwhelming rigorous research, more than 600 credible studies, that link the physical environment of care to health outcomes.¹⁷ Due to the archaic infrastructure of older buildings, patient care/capacity is often reduced in order to provide bed space and infrastructure upgrades, such as ventilation and communication systems, that better meet modern codes and standards.

Strict qualification standards

The IHS adheres to strict qualification standards for personnel and contractors who participate in the planning, design, construction, and operation of its facilities. These requirements help to ensure that the IHS and Tribal health care facilities are regulatory and building code compliant and culturally appropriate health care facilities. It is also important that they meet programmatic requirements and incorporate proven and effective design and sustainability principles that contribute to the health and healing process.

New Health Care Facility Construction Activity Overview

Since 2016, increased appropriations and Tribal contributions have enabled the IHS to increase the rate of facility replacement/expansion. While resources remain limited and the need continues to increase, the IHS has successfully leveraged available federal funding to maximize results through its programs. The IHS has three construction programs that provide new and replacement health care facilities.

1. **New Construction (NC):** Under this option, the IHS provides the funding to plan, design, construct, and equip the health care facility and to staff, operate, and maintain the completed facility. Priority is based on a list of facilities established in 1992. Of the 27 original projects, seven remain to be fully funded. No new Tribes or facilities have been added to this list for almost 30 years. This is the only program available to the Tribes without other resources; these Tribes are essentially unable to renovate, modernize, or add new health care facilities/services for their people. At the current funding level for this program, this moratorium on new projects will continue another 8 to 10 years.

2. **Joint Venture (JV):** Under this option, the participating Tribes have resources outside of the IHS appropriations. They provide planning, design, equipment, and construction funding, and lease the facility to the IHS at no cost for 20 years. The IHS then provides funding to staff, operate, and maintain the completed facility. A new list of participating Tribes is established via competitive application every three to five years. The Tribes with resources wait eagerly for each opportunity; these Tribes are prepared to fully-fund the cost of planning, design, equipment, and construction. However, despite the project cost savings to the federal government, the number of Tribes selected is very limited. For example, in FY 2020, 43 Tribes submitted eligible applications and only five were selected to participate. Additional funding for operations would allow the IHS to further leverage Tribal resources, and thereby improve the standards of care throughout the IHS health care network.

3. **Small Ambulatory Program (SAP):** Under this option, the IHS provides planning, design, and construction funding up to a maximum of \$2 million for each project. The participating Tribes then provide funding to staff, operate, and maintain the completed facility. A new list of participating Tribes is established via competitive application every three to five years. Again, only Tribes with other resources participate in this program. The maximum on the IHS construction funds limit these projects to very small facilities, or requires a Tribe to augment project funding in addition to providing the staffing.

Much has been Accomplished

Total Square Footage Completed.....	1,283,413
Total Square Footage currently in Construction/Design/Contract.....	874,272
Total \$ Completed projects.....	\$ 766,856,750
Total \$ projects currently in Construction/Design/Contract.....	\$ 642,419,980
Total \$ Tribal Contribution – Square Footage Completed	\$ 600,327,589
Projects currently in Construction/Design/Contract.....	\$ 44,386,641

Despite the limitations, activity has occurred on 32 awarded projects in 10 of the 12 IHS Areas. This work resulted in the completion of 11 major health care facilities (1,283,400 square feet at a total cost of \$766.9 million) and planning, design, and/or construction progress on 21 more (874,300-square-feet of

construction at a total cost of \$642.4 million) during the report period under the three construction programs. (see Figure 15)

Since 2016, HCFC funding totaled \$969,289,000, with 7 facilities completed (300,800 square feet) and an additional 18 facilities under planning, design, or construction award (760,900 square feet). For JV, the Tribes committed \$644,714,200 in project funding and completed 4 facilities (913,600 square feet), with 3 more in progress (113,400 square feet). Between the three programs, approximately 2.2 million square feet of new and replacement space is being added to the IHS health care system. Two of the completed projects were selected to highlight program effectiveness: the Fort Yuma Health Center, a project managed by the IHS under the NC Program, and the Cherokee Nation Health Center, a project managed by the Cherokee Nation under the JV Program.

Fort Yuma Health Center, California

The Fort Yuma Health Center in Winterhaven, California, is a 76,300-square-foot outpatient clinic completed in 2018 that primarily serves the Quechan Tribe from the Fort Yuma reservation in California and the Cocopah Tribe from the Cocopah reservation in Arizona. The new facility is approximately three times the size of the structures it replaces, dramatically improving access to care.

The additional space allows for the expansion of dental services and public health nursing, reducing the need for patients to be seen two to three hours away in Phoenix or Parker, Arizona. Services such as physical therapy and optometry, formerly provided at Phoenix, Parker, or by contract in Yuma, can now be provided in-house at the patient’s medical home. New clinical space is also available to integrate the Cocopah and Quechan behavioral health and substance abuse programs to provide immediate referrals for patients in need.

The new health center also incorporates “green features” such as covered parking with solar collectors for power generation, solar water heaters, and “rammed earth” construction in some walls to further reduce operating expenses. It replaced the two oldest structures in the IHS inventory, an administration building built in 1852 as part of the original U.S. Army post and a hospital building, converted to an outpatient clinic, built in 1936. These buildings, together with several other support buildings, totaled approximately 25,000 square feet.

Figure 12: Old Fort Yuma administration building (1852 [left]) and hospital building (1936 [right])



At the time of replacement, facilities were grossly undersized for the user population. In addition, significant seismic damage to the hospital building further limited functionality. The new facility has enabled sustainable on-site services to be re-established. See photographs in Figure 13.

Figure 13: New Fort Yuma Health Care Center



Cherokee Nation Health Center, Oklahoma

The Cherokee Nation Health Center in Tahlequah, Oklahoma is a 455,000-square-foot facility completed in December 2019 on the W.W. Hastings campus. The facility is the largest health care facility built under the JV Program. The modern facility allows increased access to services in northeastern Oklahoma that were not there before.

The new outpatient and primary care facility is located next to the existing W.W. Hastings Hospital. When the hospital was built in Tahlequah in 1986, it was built for 100,000 patient visits per year. In 2016, the W.W. Hastings Hospital saw nearly 400,000 patient visits and had to refer many patients out of the system for specialty services. The original 170,000-square foot building will serve as the Tribe's in-patient hospital. The two facilities combined provide patients with four times more space.

The new four-story facility features 180 exam rooms, access to an MRI machine, 10 new cardiac, lung and kidney specialists, and, for the first time ever, an ambulatory surgery center. The center features five surgical and two endoscopy suites inside its ambulatory surgical center. The facility houses a specialty clinic and features 33 dental chairs, six eye exam rooms, three audiology testing booths, and diagnostic imaging. The center also expands space for several other services currently offered such as rehabilitation services, behavioral health, a wellness center, and more. See photographs in Figure 14.

Figure 14: Cherokee Nation Health Center

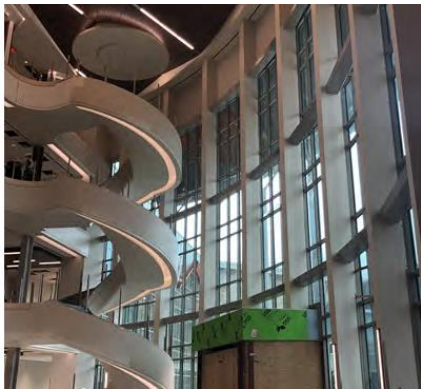


Figure 15a: IHS Completed Facilities as August 2020

Facility	Location	Type	Year	Funding	Space in square feet	Area
Naragansett	Narragansett, RI	SAP	2016	\$ 1,367,500	18,000	Nashville
Desert Sage Youth Wellness Center	Hemet, Riverside, CA	NC	2016	\$ 18,632,000	42,500	California
Choctaw Nation	Durant, OK	JV	2017	\$ 70,213,526	133,128	Oklahoma
Redtail Hawk Health Center	Gila River Indian Community, Maracopa, AZ	NC	2018	\$ 73,000,000	139,500	Phoenix
Fort Yuma Health Center	Fort Yuma, Winterhaven, CA	NC	2018	\$ 48,500,000	76,300	Phoenix
Muskogee (Creek) Nation	Eufaula, OK	JV	2018	\$ 34,628,564	73,313	Oklahoma
California Northern YRTC	Davis, Yolo, CA	NC	2019	\$ 22,461,000	42,500	California
Yukon Kuskokwim Health Corp	Bethel, AK	JV	2019	\$ 236,585,499	252,392	Alaska
Santo Domingo Health Center	Santo Domingo Pueblo, NM	SAP	2019	\$ 2,000,000	48,241	Albuquerque
Ninilchik	Ninilchik, AK	SAP	2019	\$ 568,661	2,819	Alaska
Cherokee Nation	Tahlequah, OK	JV	2019	\$ 258,900,000	454,720	Oklahoma
Total				\$ 766,856,750	1,283,413	

Figure 15b: Facilities Currently Under Construction as August 2020

Facility	Location	Type	Year	Funding	Space in square feet	Area
Dilkon Health Center	Dilkon, AZ	NC		\$ 214,800,000	154,000	Navajo
River People Health Center	Scottsdale, AZ	NC		\$ 105,500,000	197,000	Phoenix
Yakutat Health Center	Yakutat, AK	JV		\$ 9,600,000	10,900	Alaska
Ysleta Del Sur Health Center	El Paso, TX	JV		\$ 20,036,641	58,922	Albuquerque
Rapid City Health Center	Rapid City, SD	NC		\$ 129,802,000	203,700	Great Plains
Total				\$ 479,738,641	624,522	

Figure 15c: Facilities Currently in Design, as August 2020

Facility	Location	Type	Year	Funding	Space in square feet	Area
Pueblo Pintado Health Center	Pueblo Pintado, NM	NC		\$ 122,400,000	120,800	Navajo
Naytahwaush Health Center	Naytahwaush, MN	JV		\$ 14,750,000	43,602	Bemidji
Total				\$ 137,150,000	164,402	

Figure 15d: Facilities Under Contract with Tribe as August 2020

Facility	Location	Type	Year	Funding	Space in square feet	Area
Small Ambulatory Awards	14 contracts in 6 different Areas	SAP		\$ 25,531,339	85,348	Nationwide
Total				\$ 25,531,339	85,348	

Need Methodology

The IHS total health facilities need represents the amount of facility space needed to support the efficient delivery of modern health care services to the IHS health care system beneficiaries. This is presented together with the total and annual maintenance, repair, modernization, and new construction costs necessary to sustain that space.

1. Currently the services provided are integrated into the web-based HSP process for the eligible population. The HSP is a computer database program developed for the IHS specifically to aid in the design of health facilities. Based upon the expertise of experienced IHS personnel and the historical record of previously constructed health centers and hospitals, a statistical model was created utilizing population numbers and demographics. The model was used to determine certain criteria, such as the appropriate numbers of exam rooms, dental chairs, size of pharmacy, labor and delivery, etc., to be allocated to provide care for a specific population. It then determines a proposed size for such a facility with department-by-department breakdowns. These services include ambulatory, ancillary, preventive, inpatient, outpatient behavioral health, and support services. Over time, the HSP is updated, enhanced, and expanded to include new services.
2. Eligible services not yet fully deployed are also included in the total needs estimate. These services include specialized health care facilities, such as inpatient behavioral health and alcohol substance abuse, long-term care, dialysis, and regional outpatient specialty care facilities. The IHS has not yet completed planning criteria for space and staff for all potential expanded authority services included in the IHCA. In the absence of an official IHS planning criteria for these facility types, the IHS new construction cost estimating system and locality factors were used to establish unit costs. Space needs were identified using Facility Guidelines Institute recommendations, averages from industry practices, and health data published by other agencies.

This report's estimated cost and space requirements were determined using the same approach and data sources (updated) as in previous reports, with the exception that Facility Guidelines Institute recommendations for space were added to provide an incremental increase in accuracy of estimates for programs where HSP criteria were not available. A summary and breakdown of the results by IHS Area and state are shown in Figures 1 & 16 and 2 & 17. The following explains the methodology used to determine the need.

- The amount of existing program space within of the IHS SU was taken from the HFDS and then summarized by the IHS Area. The HFDS is a database with records for each building in the SU along facility parameters including size, age, and use.
- The estimated total amount of required space each SU should have to deliver current programs to the IHS's user-population was taken from approved planning documents or detailed master plans when they existed and were current. Otherwise, the estimated amount of needed space was calculated with the HSP process. The HSP can calculate a minimum facility size needed for the 2018 user population or a design space sized for future capacity based on an estimated future population. The IHS uses a design population estimated for 10 years in the future. For this report, the 2030 population is based on 1.75 percent annual population growth.
- The space shortage or amount of space the SU project(s) need is the difference between the existing program space and the required program design space.

- Simple assumptions were consistently applied to the rate of renovation, replacement, or reuse triggered by age and/or size:
 - When a proposed project touched a building over 30-years old, the entire building was replaced.
 - When a project proposed to add more than two times the existing space, the entire facility was replaced.
 - Renovations are required to upgrade an existing building under 30 years of age. This ensures non-replaced space continues to meet or exceed code and Joint Commission regulatory standards. These expenses are added into the overall scope of need in the maintenance and improvement line item. Major renovation is estimated to cost 42.5 percent of respective building construction cost.

Construction costs are from the IHS FBES. The FBES is a database system used by the IHS to estimate construction costs using different rates for inpatient, outpatient, and office/other construction, along with a location factor multiplier to account for geographic construction cost differences.

The report shows assessed need, which is an estimate of need for planning level use. Every project, once it is actually funded, is subject to refined planning, risk assessment, input from integrated project teams, approvals (Tribe, IHS, local, state, participating agency, etc.), environmental clearances, and strict acquisition and project management requirements that can result in scope, budget, and schedule adjustments.

Health Facility Space and Funding Needs

Figure 16: Indian Health Service and Tribal Health Care Facilities' Needs Summary

	A	B	C	D
	IHS Facilities Appropriation Line Item	FY 2020 Appropriation	Sustainable Program Annual Funding Need	2021 Total Health Facility Need
1	*Maintenance & Improvement	\$169M	\$536M	\$3.1B
2	Sanitation Facilities Construction			Reported separately
3	Health Care Facilities Construction	\$259.3M	\$750M	\$23.0B
4	Facilities and Environmental Health Support			Staffing need not part of report scope
5	**Equipment	\$28.1M	\$125M	\$454M
	TOTAL	\$456.4M	\$1.411B	\$26.6B

*See page 14 for more detail on maintenance and improvement.

** See page 13 for more detail on medical equipment.

Existing space in IHS facilities (20.5 million square feet) is substantially less than required (~39.6 million square feet). The shortage is a consequence of AI/AN demographic trends, especially population growth, modern facility codes/standards, and obsolete older space.

- *Demographic Trends:* The IHS AI/AN service population is growing at an average rate of 1.75 percent annually. The service population growth rate is used to project user population. It is common for the current user population of an older facility to be 50 to 75 percent greater than the existing population when it was originally constructed. We showed earlier that the IHS network is older and that replacement and expansion are not keeping up with population growth. Facilities constructed 25-45 years ago and sized for the population at that time are now significantly undersized.
- *Modern codes/standards:* More space is needed today due to new standards and codes, even if the population was not increasing. Often internal reconfiguration is needed to comply with modern codes and standards and these often require expanded space. However, this is a less significant factor than the growing AI/AN user population. A substantial and growing portion of the IHS health care facility space is more than 30 years of age. This space is inefficient and inappropriate for modern medical care.

Figure 17: 2021 New and Replacement Facility Need and Estimated Costs Summary

IHS Facility Need by Area			IHS Facility Need by State		
IHS Area	Medical Space (thousand square feet)	Total Need (in millions)	State	Medical Space (thousand square feet)	Total Need (in millions)
Alaska	3,530	\$4,400	AK	3,530	\$4,400
Albuquerque	1,570	\$1,115	AL	10	\$7
Bemidji	1,460	\$1,173	AZ	4,460	\$3,726
Billings	1,630	\$1,443	CA	2,190	\$1,856
California	2,070	\$1,777	CO	140	\$93
Great Plains	2,050	\$1,785	CT	70	\$54
Nashville	1,060	\$751	FL	110	\$75
Navajo	3,240	\$2,564	IA	40	\$24
Oklahoma City	4,220	\$2,850	ID	340	\$247
Phoenix	2,770	\$2,292	KS	210	\$149
Portland	2,910	\$2,363	LA	80	\$47
Tucson	600	\$487	MA	50	\$48
TOTAL	~27.1 million	~\$23 billion	ME	130	\$93
			MI	200	\$149
			MN	760	\$654
			MS	50	\$32
			MT	1,350	\$1,198
			NC	80	\$47
			ND	750	\$681
			NE	140	\$121
			NM	2,980	\$2,139
			NV	360	\$311
			NY	300	\$227
			OK	3,980	\$2,679
			OR	780	\$654
			RI	10	\$5
			SC	60	\$43
			SD	1,120	\$959
			TX	70	\$45
			UT	110	\$107
			VA	80	\$56
			WA	1,780	\$1,461
			WI	500	\$369
			WY	280	\$245
TOTAL	~27.1 million	~\$23 billion	TOTAL	~27.1 million	~\$23 billion

Discussion – Implications for the Future

Summary of Findings and Recommendations

This report assesses the condition of the IHS health care facilities and improvements needed to ensure crucial access to health care services for AI/AN people.

Our findings identify an aging infrastructure where many facilities were constructed before the advent of contemporary health care delivery models and modern building codes and standards. The aging network escalates maintenance and repair costs, risks code noncompliance, lowers productivity, and compromises service delivery. Facility space capacity is inadequate for actual and projected AI/AN user populations. The shortage is a consequence of the demographic trends of AI/AN people, modern facility codes/standards, and gradual obsolescence of older space and equipment. The problem will worsen if current demographic trends continue in future years.

To meet the IHCIA’s congressional findings “...to raise the health status of [Indians] to at least the levels set forth in the goals contained within the Healthy People [2030] initiative... adequate funding must be provided by Congress for modern medical equipment and adequate health care facilities. This, in turn, will provide the platform on which modern health care can be better delivered, so that AI/AN people have access to the right provider, at the right time, at the right place.” A fully funded systematic approach and plan to provide the “right place” is a critical component of that success. This approach identifies the IHS health care system need as follows:

- The annual medical equipment need for a sustainable program for purchasing, servicing, and replacing medical equipment is \$125 million.
- The annual maintenance and improvement need for a sustainable program for maintaining and renovating the existing IHS major health care buildings over their 60-year design life is \$536 million (6.4 percent of CRV).
- The cost for new and replacement space construction to increase the IHS health care facilities to their needed capacity is enormous, approximately \$23 billion. The annual health care facilities construction need for a 25-year construction program (2021 – 2045) would be \$750 million.

At current funding rates, the IHS facilities network will continue to age and capacity will decline. In 2021, only two-thirds of the 1992 facility priority list is complete. At this pace, even that subset will not be completed until 2030 or later, not to mention the Tribes with facility needs that are not on the current list.

Next Steps

Not included in this report is the comprehensive priority list required by 25 U.S.C. § 1631(c)(2)(A)(ii)(I):

“...a report that describes the comprehensive, national, ranked list of all health care facilities needs for the Service, Indian tribes, and tribal organizations including inpatient health care facilities, outpatient health care facilities, specialized health care facilities (such as long-term care and alcohol and drug abuse treatment, wellness centers, and staff quarters, and the renovation and expansion needs, if any, of such facilities) developed by the Service, Indian tribes, and tribal organizations for the Facilities Needs Assessment Workgroup...”

In lieu of the comprehensive priority list, the IHS has relied on a priority list established in 1992 in accordance with 25 U.S.C. § 1631(c)(1)(D) (see Figure 18). In anticipation of the completion of this “grandfathered” list, the IHS has completed a revised health care facilities construction priority system. The new priority system list is scheduled to be operationalized over the next four years in time to be utilized for the next five-year update of this report.

Figure 18: FY 2021 Facilities Planning (Five-Year Plan) ^{a/}

FACILITY	Prior to FY 20 *	FY 20 Appro	FY 21 Est.	FY 22 Est.	FY 23 Est.	FY 24 Est.	Out years Est.	Total Cost
Planning Studies	-						500	
Inpatient Facilities								
PIMC, AZ, Health Care System								
Central - Hospital & ACC	2,228	-	0	70,000	150,000	150,000	301,772	674,000
Whiteriver, AZ, Hospital	15,000	10,000	58,918	100,000	100,000	170,000	0	453,918
Gallup, NM Hospital	2,000	-	0	70,000	200,000	200,000	80,000	552,000
Outpatient Facilities								
Rapid City, SD	118,002	11,800	-	-	-	-	-	129,802
Alamo, NM	51,500	23,500	-	-	-	-	-	75,000
Pueblo Pintado, NM	97,400	25,000	-	-	-	-	-	122,400
Bodaway Gap, AZ	38,380	42,320	26,000	44,500	-	-	-	151,200
Albuquerque Health Care System								
Albuquerque West, NM	39,683	105,670	-	-	-	-	-	145,353
Albuquerque Central, NM	734	0	20,000	154,000	-	-	-	174,734
Sells, AZ	15,750	-	0	100,000	109,000	-	-	224,750
Small Ambulatory Program (Section 306)								
Small Health Clinics	59,273	25,000	-	-	-	-	-	
Staff Quarters Program 25 U.S.C. 13, Snyder Act								
Staff Quarters	16,000	10,000	20,000	-	-	-	-	
Youth Regional Treatment Centers (Section 704)								
N. California YRTC	19,100	1,000	-	-	-	-	-	20,100
Green Infrastructure (CWA)								
Photovoltaic Projects	0	5,000	-	-	-	-	-	
Joint Venture Construction Program (Section 818e)								
TOTAL		259,290	124,918	538,500	559,000	520,000	382,272	2,383,980
UNFUNDED (FY 2021-Outyears) Priority Projects only								2,124,670

The IHS is assessing facility needs to update and provide new service types authorized in the IHClA based on service priorities established in the 2015 Tribal consultation. These new service categories have not been historically provided through the IHS health care system. These specific service types require corresponding unique facility types. Once planning criteria (threshold user populations, clinical space, and medical equipment needs) are completed, they will be integrated into the IHS health systems planning software. These include:

- Inpatient Mental Health and Inpatient Alcohol Substance Abuse treatment
- Long-Term Care Facilities:
 - Clinical – Primarily engaged health-related care (skilled nursing facility and rehabilitation after hospitalization), nursing facility, Alzheimer’s, cognitive delays or other disabilities special care.
 - Non-Clinical – Primary focus on ADLs. Custodial Care (residential care adult day care, board, “group,” independent and assisted living homes, and communities that provide incidental medical care).
- Specialty Care Center: Cardiology, Orthopedics, Urology, Ophthalmology, Podiatry, Bone Mineral Density, Chemotherapy, Dermatology, and Otolaryngology
- Dialysis

As shown below, these ongoing efforts are organized around the current revised priority lists concept. The priority lists are in keeping with statutory requirements and Tribal consultation:

- Inpatient health care facilities
- Outpatient health care facilities
- Specialized health care facilities:
 - Long term care facilities
 - Inpatient mental health, alcohol, and drug abuse treatment facilities
 - Specialty care centers
 - Wellness centers
- Staff quarters
- Health care facility expansion and remodel
- IHS Area distribution fund

Once these components are completed, they will be integrated into a revised health care facilities priority system operational plan. When the plan is completed, a national rollout to Tribes and the IHS Areas will be conducted to update each Area Facility Plan and then populate a comprehensive, national, ranked list of all health care facilities needs for the IHS, Indian Tribes, and Tribal organizations.

References

- ¹ 25 U.S.C. § 1631 - Consultation; closure of facilities; reports.
- ² As defined by the Indian Self-Determination and Education Assistance Act at 25 U.S.C. §5304.
- ³ Source: Moody's Investors Service, "*US Not-for-Profit Hospital 2017 Medians*" report, August 2018. Becker's Health care CFO, Financial Management, 11 Statistics on Average Age of Hospital Plant by Herman, Bob, February 14, 2013. <https://www.beckershospitalreview.com/finance/45-financial-benchmarks-for-hospital-executives-062619.html>
- ⁴ Carr, Robert F. Health Care Facilities. Whole Building Design Guide, National Institute of Building Science. October 2014.
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- ⁷ Department of Defense (DOD). Military Health System's Guide to Access Success. Health Care Access Professionals of the TRICARE Management Activity and Army, Navy, Air Force and Coast Guard Medicine. December 15, 2008.
- ⁸ Indian Health Service. Indian Health Disparities, October 2019 <https://www.ihs.gov/aboutihs>
- ⁹ American Indians and Alaska Natives (AI/AN) in the IHS Service Area 2009-2011 and U.S. All Races 2010 <https://www.ihs.gov/newsroom/factsheets/disparities/>
- ¹⁰ Estimated Useful Lives of Depreciable Hospital Assets, 2018 Edition.
- ¹¹ Source: Moody's Investors Service, "*US Not-for-Profit Hospital 2017 Medians*" report, August 2018. Becker's Health care CFO, Financial Management, 11 Statistics on Average Age of Hospital Plant by Herman, Bob, February 14, 2013. <https://www.beckershospitalreview.com/finance/45-financial-benchmarks-for-hospital-executives-062619.html>
- ¹² State of US Health Care Facility Infrastructure. American Society for Healthcare Engineering (ASHE) Monograph. Page 8, 2017 Edition.
- ¹³ State of US Health Care Facility Infrastructure. American Society for Healthcare Engineering (ASHE) Monograph. Page 8, 2017 Edition.
- ¹⁴ State of US Health Care Facility Infrastructure. American Society for Healthcare Engineering (ASHE) Monograph. Page 12, 2017 Edition.
- ¹⁵ FAAB 2020 Facilities Appropriation Information Report for the IHS building inventory, the annual M&I need calculation is: UOF (+) 1/5 BEMAR (+) improvements. The 2021 total M&I need calculation is: UOF (+) BEMAR (+) ½ major renovation. M&I need is based on major facility renovation at 30 years, a building replacement cycle of 60 years, and a 5 year replacement BEMAR cycle. M&I total need also assumes that due to the range of building ages, only 50 percent of eligible IHS building space currently needs major renovation.
- ¹⁶ Arneill, B., & Frasca-Beaulieu, F. (2003). Healing environments: Architecture and design conducive to health. In S.B. Frampton, L. Gilpin, & P.A. Charmel, Putting Patients First: Designing and Practicing Patient-Centered Care. San Francisco, CA.
- ¹⁷ Ulrich, Roger, Xiaobo Quan, Craig Zimring, Anjali Joseph, and Ruchi Choudhary. The Role of the Physical Environment in the Hospital of the 21st Century: A Once-in-a-Lifetime Opportunity. Center for Health Design, September 2004.