



# Oregon Rural Health Association



## Small Rural Hospital Architectural Assessment Executive Summary

March 31, 2003

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The committee introduced a bill in the 2001 Session modeled after the Washington State Health Foundation. The bill, HB 2515, appropriated \$15 million to the Oregon Rural Health Association (ORHA) for development of a Rural Health Viability Grant program to assist in financing rural health infrastructure. However, the money was not forthcoming because the Governor froze the funds.

Although appropriated funds have never been released, ORHA received a \$60,000 grant to provide an architectural assessment for twelve of the neediest of these hospitals. We have provided an architectural assessment to each of the selected hospitals, which also include the architect's recommendations.

One of the reasons for legislative support of funding for the Rural Health Viability Grant program is because the legislature found that many of the small rural hospitals have 40 to 50 year old physical plants. Four of the hospitals need to be replaced and the other eight need major renovation. However, many do not have the cash flow or the cash reserves to obtain a feasibility study and/or to develop a long-range plan for their facility. Several of the hospitals are seeking grants to obtain the planning funds, which are critical to accessing capital.

We are pleased to provide the following summary of this project and hope that the legislature and the Governor will renew support for funding the Rural Health Viability Grant program.

Best Regards,

Ken Hoffman,  
President

Ed Patterson,  
Project Director

SMALL RURAL HOSPITAL  
ARCHITECTURAL ASSESSMENT  
SUMMARY

Prepared by Donald N. Nyberg,  
Health Facilities Consultant / AIA Architecture for Health  
Prepared for the Oregon Rural Health Association  
March 24, 2003

The Oregon Rural Health Association contracted with Donald Nyberg, Health Facilities Consultant, to review the physical condition and modernization needs of small rural hospitals in Oregon. Funded by a \$60,000 grant from the Federal Office of Rural Health Policy, twelve hospitals were selected. A primary purpose was to help document what people in the industry have recognized for sometime, that small hospitals cannot typically fund depreciation or modernize and expand facilities to meet their needs. Most small rural hospitals were constructed with federal Hill Burton Grant and Loan Funds from 1949 through 1979, when congress eliminated the program.

Since Hill Burton, no comprehensive program has helped with unmet capital construction needs. Without access to capital the physical condition of many small rural hospitals has deteriorated. A national change in service provision from longer stay inpatient to heavy care short stay, and a major shift to outpatient services, left many hospitals with outdated physical plants, inappropriate to meet current needs. Without modern facilities, it is difficult to attract physicians to practice in these communities. With higher than average charity and Medicaid patient volumes, many rural hospitals lapsed toward dependence on local property taxpayers to stay financially solvent.

All hospitals were reviewed based on construction type and safety deficiencies as cited by the Office of State Fire Marshal or Joint Commission on Accreditation of Hospitals and Healthcare Organizations. None were found to have major cited deficiencies that were not being corrected, probably as a result of rigorous inspections in this area. A limited review of mechanical and electrical systems and architectural features was done, comparing existing hospital facilities to Department of Health Services rules for new construction under OAR 333-Division 535.

Inpatient rooms and support features (Nurses station, Meds room, etc.) on nursing care units are each rated by a percentage of compliance rating. Hospital Departments (Laboratory, Surgery, Dietary, etc.) were each reviewed and their ratings were averaged as a percent of compliance to applicable rules. Mechanical and electrical systems were given a brief overview for compliance to both Health Division construction rules and NFPA regulations for emergency power and medical gas systems. If major non-compliance issues were found, the summary indicates so. A review of ADA accessibility compliance was similarly performed, using ADA criteria.

HOSPITAL A: Constructed in 1950 with Hill Burton Funds, it also includes all this counties nursing home services in a subsequent addition. Heating and ventilating systems, important for infection control as well as comfort, are woefully antiquated. Piped-in vacuum and medical air is non-existent and oxygen is only available in some departments. Electrical wiring is only grounded through the metal conduit in most areas. An emergency power system exists, but is far from meeting current code requirement. Patient toilet rooms and most ancillary departments are not ADA compliant. Obstetrics is located far from medical and surgical services, handicapping the hospital's ability to staff efficiently. A very limited site and site condition appear to mandate replacement on another site.

Conforming rating patient rooms =	51%
Conforming rating/support features of care units=	42%
Conforming rating for hospital departmental areas =	55%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL B: Constructed in 1967 with Hill Burton Funds, five smaller additions were subsequently added. While relatively attractive the hospital has experienced financial difficulties and has been unable to properly maintain its physical plant. A roof replacement has been so problematic that portions of the facility are covered by plastic tarps to keep out rainwater. Approximately 30% of the building's plywood siding includes rot. Heating units on the roof are rusted and need replacement. Plumbing and heating system valves are rusted open and inoperable. The volume of Obstetrical Service is near requiring provision of a C-section room by Health Division Rules. No patient toilet rooms off patient bedrooms are ADA compliant. Some ancillary service areas are crowded, needing expansion.

Conforming rating patient rooms =	87%
Conforming rating/support features of care units=	79%
Conforming rating for hospital departmental areas =	70%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL C: Constructed in 1950 with Hill Burton Funds, this small Oregon hospital has had recent renovation of mechanical and electrical systems, although patient rooms were not improved. Most such rooms lack adjoining toilet and bathing facilities, with common use toilets provided only off the public corridor. No positive air ventilation is provided to patient rooms, and temperature control is a significant problem. No cooling is provided in this warm climate apart from residential type window air conditioners in certain rooms. Hospital ancillary service areas are mostly far from meeting current standards, and modernization is needed.

Conforming rating patient rooms =	45%
Conforming rating/support features of care units =	50%
Conforming rating for hospital departmental areas =	63%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL D: This remotely located hospital was constructed in 1951 with three subsequent smaller additions. It is located in Seismic Zone 4, the highest risk zone found in Oregon, and was constructed prior to modern seismic regulations. While some renovations have occurred, the facility lacks many features of a modern hospital including piped-in vacuum and medical air. The emergency power system is antiquated and far from meeting current NFPA 99 standards. Obstetrics was found in need of major improvements. Hospital ancillary and support areas received low ratings, with a pressing need for more space in Laboratory and Imaging. Only one operating room is provided, and with no separate C-Section room, it cannot be assured that an appropriate clean room can be made available when needed for C-Sections. A replacement facility is needed.

Conforming rating patient rooms =	62%
Conforming rating/support features of care units=	62%
Conforming rating for hospital departmental areas =	53%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL E: This small community hospital was constructed in 1962 and received a major addition, replacing most inpatient beds and some ancillary service departments in 1995. While one of the more updated hospitals, the exterior synthetic stucco of the 1995 addition did not provide a waterproof barrier, resulting in major rot damage to the plywood sheathing and some structural members. This is currently being repaired at high cost. Ancillary departments, not relocated to the newer building were found to need modernization, with surgery only scoring a low rating of 33%, and Central Sterile Supply 0%. A second modernization phase appears needed.

Conforming rating patient rooms=	100%
Conforming rating/support features of care units=	100%
Conforming rating for hospital departmental areas =	68%
Mechanical/electrical/systems Major deficiencies	No
ADA deficiencies – Major	No

HOSPITAL E: Entering into a renovation project to extend its useful life another 5 to 10 years, this hospital has additional unfunded renovation needs to correct a history of deferred maintenance. Since underway, the review was based on project remodel plans. Some departmental areas and mechanical improvements are still to be needed. A replacement hospital may be considered in five years if feasible.

Conforming rating patient rooms=	84%
Conforming rating/support features of care units=	100%
Conforming rating for hospital departmental areas =	85%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL G: Serving a wide geographic area, this hospital was constructed with Hill Burton Funds in 1949 with three subsequent smaller additions. It was found structurally sound and well maintained, but substantially antiquated. Poor ventilation and temperature control result from antiquated heating and ventilating systems. Plumbing systems also are problematic, as well as oxygen and vacuum. The emergency power system is not code complying. Many handicapped standards are not met. The separation of Obstetrics from medical and surgical service causes staffing inefficiencies. A replacement hospital on a new site appears needed soon.

Conforming rating patient rooms=	50%
Conforming rating/support features of care units=	38%
Conforming rating for hospital departmental areas =	61%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL H: Constructed in 1970 with Hill Burton Funds, an outpatient services addition was added in 1974 (also Hill Burton) and nursing home expansion in 1977. The hospital was found well maintained, and more compliant with current standards than most because of its newer age. The hospital has several major needs, however, including revisions to its emergency power system for code compliance, HVAC system updates, and expansions to some departments. A master plan for future development and eventual phased replacement of older building sections is recommended.

Conforming rating patient rooms =	81%
Conforming rating/support features of care units =	82%
Conforming rating for hospital departmental areas =	71%
Mechanical/electrical/systems Major deficiencies	Yes
ADA deficiencies – Major	Yes

HOSPITAL I: Constructed in 1961, this hospital experienced at least seven subsequent additions, with most inpatient services located in a 1967 wing, originally planned for nursing home use. The facility was found well maintained and without major construction deficiencies. Significant ADA accessibility issues are to be resolved through a pending replacement project for most inpatient beds. Obstetrics was found most non-complying with current construction rules, with undersized birthing rooms and a need for a separate C-Section room. Lack of adequate storage for supplies and equipment is a major hospital problem. A master plan for future growth and modernization has been completed. The hospital has asked for funding assistance for equipment storage space, improved materials handling facilities and a second endoscopy procedures room in addition to their bed replacement project.

Conforming rating patient rooms =	72%
Conforming rating/support features of care units =	73%
Conforming rating for hospital departmental areas =	75%
Mechanical/electrical/systems major deficiencies	No
ADA deficiencies – major	Yes

HOSPITAL J: Constructed in 1985 to replace two antiquated community hospitals, this hospital subsequently received two smaller additions and a large outpatient clinic, most of which is leased space. As a newer facility than most rural hospitals, it scored relatively well in terms of modernization need ratings. The fast growing population of the service area, however, places increasing demands. ADA accessibility compliance is a significant problem, with lack of complying patient rooms and adjoining toilet facilities. The emergency department needs improvements to better allow for patient confidentiality. Laboratory was found undersized and the Imaging Department needs expansion. The hospital is located on a 40-acre site, and with good planning, should be usable for the foreseeable future. A facility master plan is recommended before more additions are planned. The hospital has asked for funding assistance with improvements to the Emergency Department triage space, Imaging Department (including moving the MRI unit into the hospital from a modular building) and Laboratory Department expansion.

Conforming rating patient rooms =	93%
Conforming rating support features of care units =	100%
Conforming rating for hospital departmental areas =	93%
Mechanical/electrical/systems major deficiencies	No
ADA deficiencies – major	Yes

HOSPITAL K: Constructed as a Hill Burton project in 1950, a nursing home wing (now closed) was added in the 1960's, with Laboratory, Emergency and Surgery replaced by new construction in 1992 and 1993. Plumbing, medical gas and vacuum piping and electrical systems of the original structure show the effects of

age and heavy usage. Heating and ventilating systems are generally not complying with recommended standards. The electrical system is not grounded in a manner required by more recent codes. All inpatient units are in the original 1950 structure. Medical and surgical units show high need for modernization. Departmental areas in newer additions scored well, but those in the 1950 structure received poorer ratings, including imaging at 64% and Dietary at 60%. Replacement of inpatient beds appears a significant need, but should only be done in concert with a long range development plan.

Conforming rating patient rooms =	59%
Conforming rating support features of care units =	61%
Conforming rating for hospital departmental areas =	89%
Mechanical/electrical/systems major deficiencies	Yes
ADA deficiencies – major	Yes

HOSPITAL L: Constructed in 1952, most acute services of this hospital were placed in a new two-story addition in 1989. Older building sections were since renovated for diagnostic and support functions. While usable for the immediate future, increased growth in services may require replacement of some older building sections as outlined in the hospital’s well-conceived master plan. A roof replacement of the oldest section is needed now. No significant structural, mechanical or electrical deficiencies were noted. Unfortunately, the 1989 inpatient care addition is non-complying with ADA accessibility requirements. Most departments received good ratings, although Dietary was found undersized and substantially antiquated. Lack of storage space is also a major issue. The hospital appeared well maintained and a long-range facilities plan has been completed.

Conforming rating patient rooms =	98%
Conforming rating support features of care units =	92%
Conforming rating for hospital departmental areas =	86%
Mechanical/electrical/systems major deficiencies	No
ADA deficiencies – major	Yes

Oregon Rural Health Association Small Rural Hospital Matrix Architectural Assessment - Executive Summary													
Hospital	A	B	C	D	E	F	G	H	I	J	K	L	Average
Original Construction	1950	1967	1950	1951	1962	1972	1949	1970	1961	1985	1950	1952	1959
Hill-Burton Funds	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	92%
Rural Type (1)	A	B	A	A	B	B	A	A	B	A	B	B	
Inpatient Rooms (2)	51%	87%	45%	62%	100%	84%	50%	81%	72%	93%	59%	98%	74%
Nursing Unit (2)	42%	79%	50%	62%	100%	100%	38%	82%	73%	100%	61%	92%	73%
Departments (2)	55%	70%	63%	53%	68%	85%	61%	71%	75%	93%	89%	86%	72%
Mechanical/Electrical Major Deficiencies	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	67%
ADA Major Deficiencies	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	92%
Recommendation	3	4	4	3	4	3	3	4	4	4	4	4	

- (1) All 50 beds or less
- (2) Percentage of compliance
- (3) Replacement
- (4) Renovation & Expansion