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## Shared Vision Leads to Success for Portage Health System



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Jim Bogan, CEO of Portage Health System in Hancock, Michigan had vision for a healthcare delivery system in his community. The vision he had was far removed from reality. In order to achieve his vision, Bogan knew something had to be done. He found an architectural company, which would assist him in seeing his vision to fruition. It is often thought that an architect is solely responsible for the vision of a project, when in reality, the most successful of projects are the ones where the vision is shared by both the client and the architect.

Site selection, cost concerns and a number of design solutions are examined to determine the best way to design and build a facility which will house a healthcare delivery system which will serve the Hancock, Michigan community well into the future.

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## Shared Vision Leads to Success for Portage Health System

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Jim Bogan, CEO of Portage Health System in Hancock, Michigan had a vision for a healthcare delivery system in his community. His vision was far removed from reality. To achieve this vision, Bogan knew something had to be done. All of the classic symptoms were there: stagnant population growth, a depressed economy, and an outdated facility, which did not meet the needs of the community. To prevent the beginning of the end of Portage Health System, Bogan found an architectural firm to assist him in seeing his vision through to fruition. It is often thought that an architect is solely responsible for the vision of a project, when in reality, the most successful of projects are the ones where the vision is shared by both the client and the architect.

Outwardly the situation appeared bleak. The hospital was currently operating in a facility constructed in 1947 with little or no changes since. A large part of the population was made up of people over age 70, and slowly shrinking. This was the culminating effect of the end of an era. In the land where copper was once king, it was no more. The last of the copper mines had closed; income was cut off and people left in search of employment. The Hospital was now the largest employer in Hancock, and its a caregiver was now coupled with its responsibility on a civic level. It was a point of pride, garnering the spirit of the community and it had to respond. It needed to become a state-of-the-art healthcare provider with services, which would attract patients of all ages, capture the largest market share, and maintain a high level of efficiency profitability.

The existing hospital was a nine story 140,000 SF facility with floor plans that were virtually incompatible with current needs. The decision was to build a replacement facility that was designed to last another fifty years with little change. The hospital had built one new facility every 50 years since 1897, and saw no need in changing its approach. The hospital employed a group of doctors that were located in two separate and outdated medical office buildings on the campus. The goal was not only to bring this group of doctors within the confines of the new structure, but to attract many of the non-hospital based physicians throughout the community to the health system as well.

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## Site Selection

The first task at hand was to find a location for the new building. Hancock is located on the banks of Portage Lake which divides a narrow strip of land located on the northernmost tip of the Upper Peninsula of Michigan, known as the Keweenaw. The hospital chose a site on the top of a hill overlooking the valley and city below. The site is heavily wooded, and could possibly someday be surrounded by National Parkland.

This part of the Upper Peninsula is unique in several ways. There is still a strong Finnish heritage that runs throughout the closely-knit communities, and this heritage is reinforced by the unusual weather. Due to lake effect snow from Lake Superior which the locals call the "big water," the Keweenaw averages over 200 inches of snow per year. This in itself helps create a distinct architectural style found throughout Hancock. This style consists mainly of pitched roofs, exposed timbers and natural stone.

## Cost Concerns

The materials used throughout the building were utilized to their fullest potential, as cost was a major concern. The architects used indigenous materials, in order to evoke a feeling of familiarity and create a more calming and patient-friendly environment. The split faced concrete block was manufactured locally and colored and textured to emulate the Johnstonian Sandstone that is found in many of the local historic structures. The natural stone was quarried from the shores of nearby Lake Superior. These are two of the many examples of how quality was obtained without an increase in cost.

The project had to be completed on a limited budget. As a result, the building had to be planned in the most efficient way possible. This initial concern for over designing spatial requirements, coupled with the desire to execute a fully integrated and seamless healthcare delivery system led to the ultimate solution.



[Figure 1](#): Portage Health System

The solution was a state-of-the-art three story 165,000 SF facility. The plan is incredibly efficient. It fully integrates multiple functions and services, and thus eliminates many of the redundancies that exist within hospitals today. Each of the three levels is clearly separated by function, and by who is ultimately the end user. The lower level is utilized for all non-patient services. Support spaces such as materials management, plant operations and mechanical space can be found here. Elevators were strategically located as to allow all horizontal movement of supplies to be done on this level, not on patient levels. The areas

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where supplies are distributed by staff are located near the elevators on the top two levels. The building was sited so that only one side of the lower level was exposed. This is where the loading dock is located, and it is the single point of materials handling for the entire facility. This was done to create a total separation between materials distribution traffic and hospital based traffic.



[Floorplan 1](#): Garden Level

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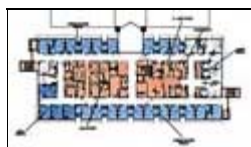
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The ground level is extremely unique. The hospital had managed to capture over 80% of all physicians within the community to base themselves within the confines of the new structure. With such success, the next logical step was to plan the hospital so that all services revolved around a centrally located clinical space. This idea had many advantages, as it allowed one central point upon entering for both registration and cashiering functions. This area served all hospital services, including hospital-based physicians and non-hospital based physicians.



[Figure 2](#): Exterior View of Portage Health Systems

The entry lobby is a two story volume with windows above looking down from the second floor inpatient bed unit waiting area. The space is structured with large wood members, again recalling the Finnish heritage.



[Floorplan 2](#): Portage Health Systems Second Level

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## Design Solutions

The central location of the clinic allows physicians to utilize such services as hospital-run administered radiographic rooms that were purposely placed nearby. This was a tremendous cost saving to the physicians, as they no longer had to supply a radiographic room, and all of its associated costs. The patient also realized the benefits. The integrated concept will allow a patient to see his/her primary care physician and any specialists, in one day, and under one roof. This is especially important to the patients that travel over 100 miles to see their physician.

All diagnostic services are located within one area. A central point of reception controls Radiology, Outpatient Surgery, Audiology, and other key services. These services are near both the Emergency Department, and Clinic, and are vertically connected to the patient units with a dedicated elevator.

The cafeteria is located directly off of the main entry with four meeting rooms that can be made into one large area accommodating up to 200 people. The building's function now transcends that of a prototypical hospital, the cafeteria does not just serve the staff and patients, but will become a gathering place for the entire community. The large meeting rooms and education centers are made available to anyone.

The most intriguing design solution on the ground floor was the location of the medical records department. It was thought that if the delivery system claimed to be truly integrated, the records system must be as well. Traditionally, a patient may have multiple medical records with each one residing in a different physician's office. Portage combined all of these records into one per patient maintained by the hospital's medical records staff. The location of the department is found in the center of the facility, not buried in the basement. This was done for two reasons. First, while medical records technology is still a paper driven system, this places the department close to the clinical and diagnostic functions. Second, in the near future, when medical records become an electronic driven system, the vast amount of space required to store them will no longer be needed. At that time, space will be made available that is in a key location. The hospital will have the opportunity for interior growth in a prime area five or ten years down the road.

With the large population of people over age 70, it was also a priority of the hospital to capture a larger share of the long-term care market. The number of long-term beds was increased from 30 to 44 with the potential to add on another 18 for a total of 62. This complex is completely separated from the main facility with the exception of an enclosed glass walkway. This walkway is directly adjacent to the kitchen in the main facility, and this was done for the ease of transporting meals to and from the long term care facility. The long-term care structure maintains its own

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entrance and parking.

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Upon entering the long-term care facility one experiences a large two story octagonal volume, structured with timbers, like the main entry into the hospital. This space contains a large stone double hearth fireplace, with one side opening into the dining room and the other opening into the entry lobby. This element was particularly important to add comfort to the long winters and short days that are typical of the Keweenaw. The facility was broken up into three wings, with each wing handling a different level of patient care. Both private and semi-private rooms are available, with the semi-private rooms arranged so that a resident can feel as though they are in complete privacy, if needed. The nursing stations are decentralized and located along the corridor. These stations were designed to blend in to try to maintain the residential feel of the interior.

The second floor is completely dedicated to inpatient beds. For the same reasons that substantially increased the number of long-term care beds, it was decided to substantially decrease the number of inpatient beds. The number was decreased from a current 93 to 30 of which four are dedicated ICU beds, five are LDRP's and 21 medical surgical beds. The floor plan was devised to completely separate these functions. As with the long term care facility, the nursing stations are all decentralized and located along the circulation corridors.



[Floorplan 3](#) : Portage Health Systems First Level

The mechanical space is completely contained within a penthouse that is located under the peak of the main roof above the bed floor. This was necessary due to the extreme amount of snowfall that is experienced in this region. Louvers to allow for the circulation of air within the mechanical space, were strategically located in an effort not to detract from the overall design. By working directly with an architect who shared his vision, Jim Bogan was able to create a healthcare delivery system, which will truly serve the community for the next 50 years and beyond.



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## The Bedless Hospital: A New Medical Facility Type

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**Figure 1.** Portage Health System, Hancock, Michigan. Architect: HDR Architecture, Inc, Omaha, Nebraska. Image supplied by Douglas S. Wignall, AIA, NCARB, director, Central Regional Healthcare Architecture.

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**Figure 2.** Exterior view of Portage Health System, Hancock, Michigan. Architect: HDR Architecture Inc, Omaha, Nebraska. Image supplied by Douglas S. Wignall, AIA, NCARB, director, Central Regiona Healthcare Architecture.

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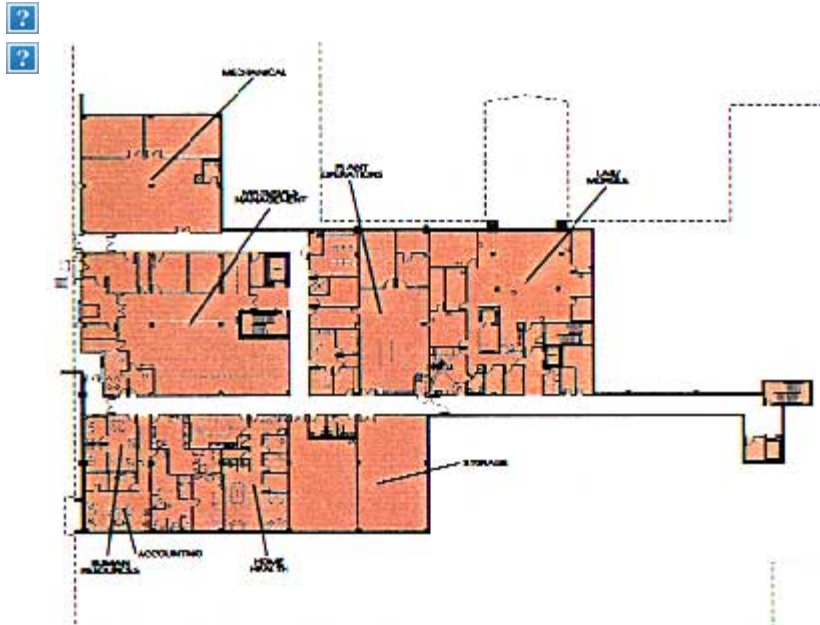
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**Floorplan 1.** Garden level of Portage Health System, Hancock, Michigan. Architect: HDR Architecture Inc, Omaha, Nebraska. Image supplied by Douglas S. Wignall, AIA, NCARB, director, Central Regiona Healthcare Architecture.

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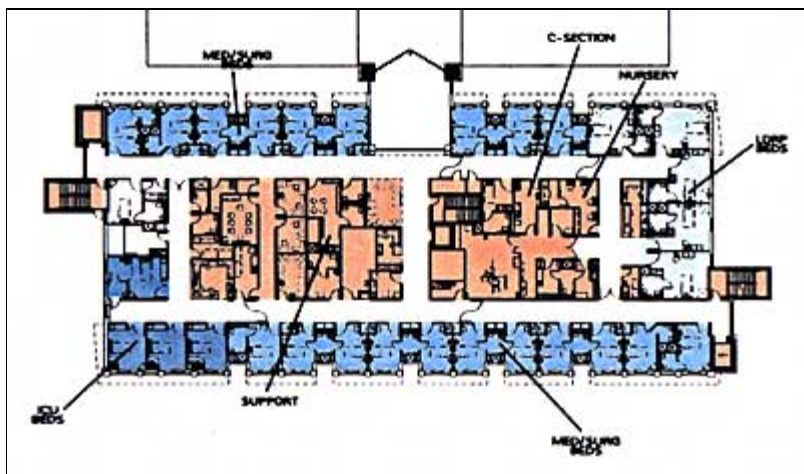
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**Floorplan 2.** Second level of Portage Health System, Hancock, Michigan. Architect: HDR Architecture Inc, Omaha, Nebraska. Image supplied by Douglas S. Wignall, AIA, NCARB, director, Central Regiona Healthcare Architecture.

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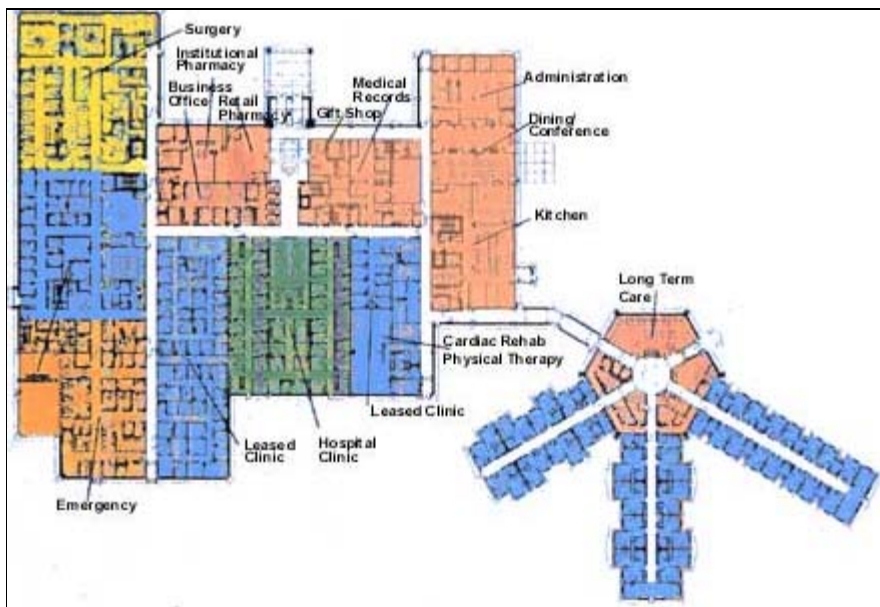
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**Floorplan 3.** First level of Portage Health System, Hancock, Michigan. Architect: HDR Architecture Inc, Omaha, Nebraska. Image supplied by Douglas S. Wignall, AIA, NCARB, director, Central Regiona Healthcare Architecture.

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