

Creating a Family- Centered MSICU

Heal people, promote health,
and strengthen communities.



Building Excellence

920.969.7000

healthcare@miron-construction.com



**“Families help heal...
the family is a
key component to
improving patient
outcomes. We need
a facility that brings
this to life.”**

KRIS L. LAHREN, MD
Aspirus Wausau Hospital



The Client:

Aspirus is a non-profit, community-directed health system based in Wausau, Wisconsin, with more than 7,000 employees serving communities throughout 14 counties in northern and central Wisconsin, as well as the western Upper Peninsula of Michigan.

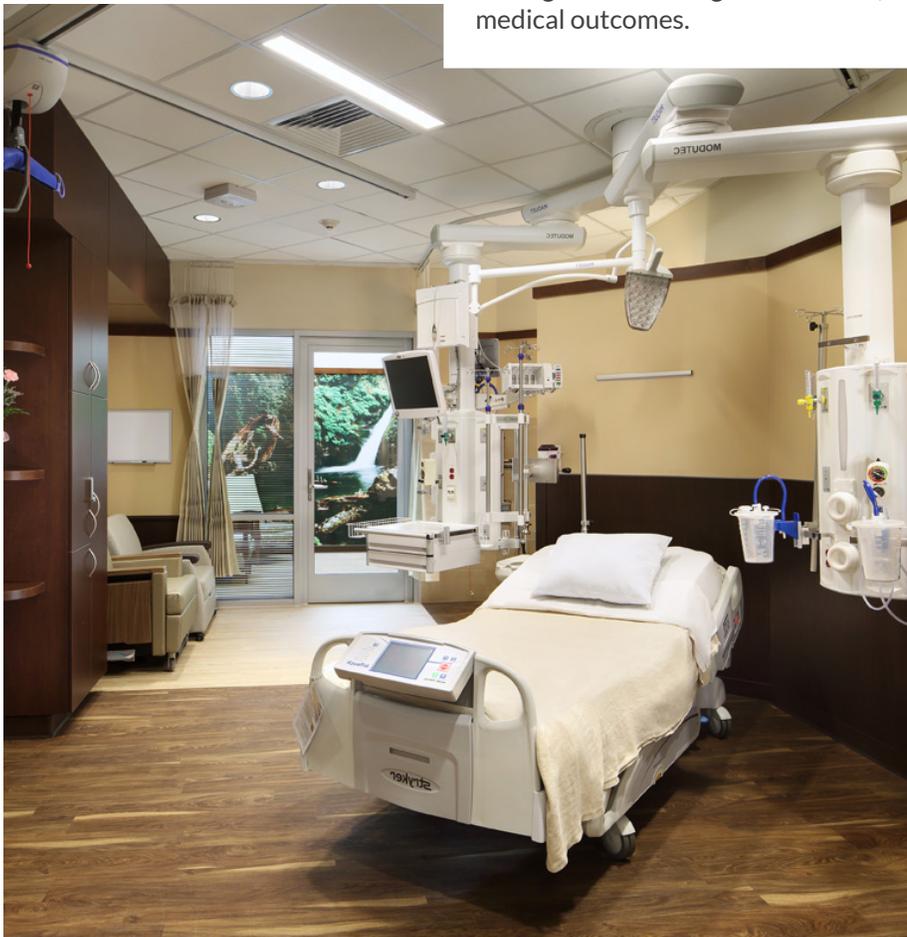
Their mission is to “heal people, promote health, and strengthen communities.”

The integrated system includes four hospitals in Michigan, four hospitals in Wisconsin, 50 clinics, home health and hospice care, pharmacies, critical care and helicopter transport, medical goods, nursing homes, and high-quality affiliated physicians.

The Challenge:

While traditional intensive care unit (ICU) design focuses on patient care, it often fails to factor in the importance of the familial connections. The nature of ICU environments and their physical barriers to family interaction often limits family connection and leads to increased anxiety, stress, and length of stay.

The critical role that families and friends play in the care and recovery process for hospitalized patients is becoming increasingly recognized. Aspirus Wausau Hospital wanted something different for its Medical Surgical Intensive Care Unit (MSICU) in Wausau, Wisconsin, and challenged the project team to reimagine the healing environment, focus on family, and enhance leading-edge medical outcomes.



FAMILY PRESENCE

Research indicates that a strong family connection lowers intracranial pressure, improves heart rates, and lowers blood pressure.



The Goal:

To create a new MSICU that fosters a healing environment, improves safety and security, supports caregivers' ability to respond to patients efficiently, and creates an atmosphere centered on the family.

The Process:

Our team was challenged to create an MSICU that enhances the patient and family experience without traditional access to natural daylight. To accomplish this, we assembled multidisciplinary innovation teams (I-teams) to create an innovative MSICU concept that addressed the needs, priorities, and preferences of patients and their families.

Unfortunately, there are multiple barriers to families visiting their hospitalized loved ones. These include time constraints, geographical distance, and the allowed proximity of family members within the ICU room. Research indicates that the closer connection patients have to family members during the intensive care process, the more anxiety and stress is reduced, and ICU length of stay is decreased.

Family presence has positive physiologic effects on ICU patients and has been shown to lower intracranial pressure, improve heart rates, and improve blood pressure. Multiple studies in cardiac intensive care units have also demonstrated improved hemodynamic changes associated with family visits, suggesting that they have a calming effect on patients.

SERENITY ROOM

Close family connection during the intensive care process reduces anxiety, stress, and the length of stay.

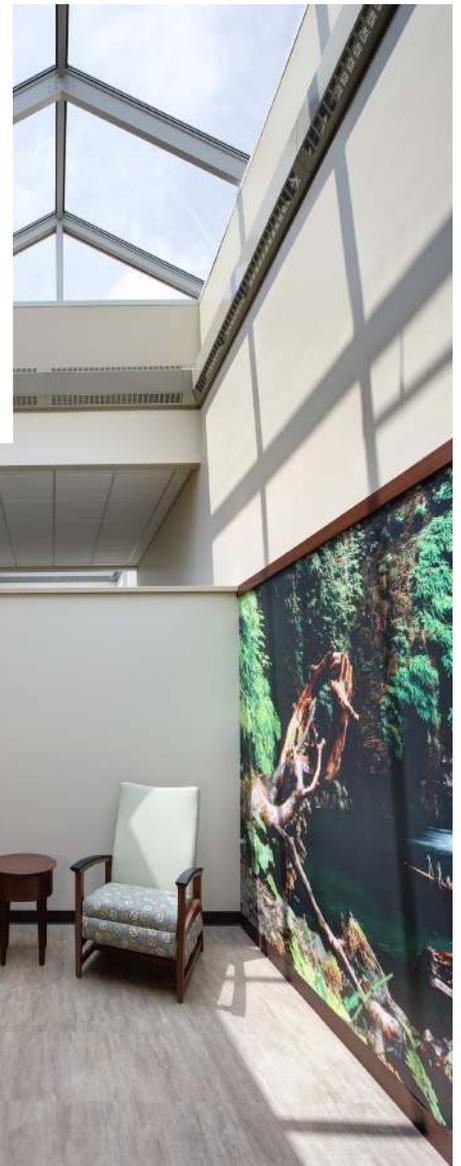
Staff at the Aspirus Wausau Hospital MSICU began a journey in 2015 to establish this ideal patient-and family-centered care (PFCC) experience. The existing space was comprised of a 16-bed unit caring for a wide variety of critically ill, adult surgical patients. Evidence-based critical care was promoted, using standardized protocols, policies, and strategies to prevent complications and achieve optimal patient outcomes. The I-team's response: the creation of more than 20 innovations, including adding a family care serenity space to each room.

Our concurrent goal was to adopt the concept that PFCC is a critical component to optimizing patient outcomes in the MSICU. Evidence-based care was a key focus, using strategies from the Society of Critical Care Medicine, the American Association of Critical-Care Nurses, and the Institute for Patient- and Family-Centered Care, to achieve optimal patient outcomes. These solutions helped overcome the typical barriers families visiting loved ones often encounter.

The Findings:

Pre-design results revealed ICU patients' vital needs, which were outlined in five categories:

- 1) Healing Environment
- 2) Safety and Security
- 3) Efficiency
- 4) Respect and Balance
- 5) Creative Care



The Innovations:

HEALING ENVIRONMENT

- Serenity/family waiting room with photographic mural
- Skylights
- Acoustic ceilings with high Noise Reduction Coefficient (NRC) ratings to reduce noise
- Electronic noise masking within serenity/family waiting rooms
- Family space within the patient room
- Hand washing station at patient room entrance
- State-of-the-art isolation room design
- Patient room information signage system

SAFETY & SECURITY

This patent-registered space offers multiple benefits:

- Ability to lock/secure the unit at any time via electronic lock system
- MSICU programmed to be secured after visiting hours
- Bio-scanning technology used to provide access into the unit
- Panic buttons located at nurses' stations
- Walking track within the unit for patient safety and recovery
- Ceiling-mounted lifts installed in each patient room for patient and staff safety
- Patient bathroom facilities designed to provide enhanced patient and staff safety
- Locked medication and medical waste storage within patient rooms
- Disposable curtains
- No electrical or Information Technology (IT) cords on the floor

EFFICIENCY

- Ceiling-mounted booms installed in each patient room to provide medical gases, power, IT, and monitoring equipment at patient's bedside
- Electronic information boards used throughout the unit
- Customized nurse servers adjacent to patient room entrance for patient care supplies (to enhance efficiency and infection control)
- Wall-mounted, adjustable monitor arms used for electronic equipment to provide enhanced versatility
- Patient nutrition station centrally located within the department
- Fully dimmable LED lights used exclusively throughout the unit
- Excellent provider visualization of the unit
- Staff support space conveniently located in the unit



RAPID ACCESS PROTOTYPING

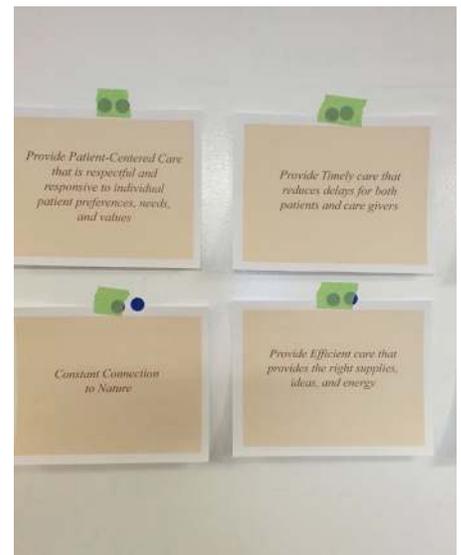
Caregivers were immersed in the space and asked to complete a variety of mapped future-state processes. This hands-on evaluation of space, processes, and systems helps create better outcomes for all stakeholders.

RESPECT & BALANCE

- Family and caregivers form a team
- Facility supports mind, body, and spirit
- ICU connects to the larger community
- Provide patients and their guests a choice
- An emphasis is placed on privacy
- Unique, comfortable environments with positive distractions
- Constant connection to nature
- Nothing is “institutional” about patient care or the facility
- Family and friends have complete control of their environment

CREATIVE CARE

- Use of skylights to provide sunlight to patient rooms and serenity/family waiting rooms, as well as ensure patients are exposed to the passage of time
- Individual serenity/family waiting space connected to each patient room
- Use of ceiling-mounted booms in each patient room
- Large windows that enhance provider visibility of the patient from the charting and nurses’ station
- Caregiver line of sight from nurses’ station to the head of the bed in each patient room
- Sound from the TVs installed within serenity/family waiting room only accessible via ear buds
- Wireless accessibility and USB charging stations for families and visitors
- Welcoming electronic information board
- Patient room design that provides space for personal cards and pictures that can be viewed directly by the patient
- Patient-room design provides an airflow system that eliminates the need for air movement devices required for patient care



Critical to the patient experience is the role that families and friends play in the healing environment. Aspirus Wausau Hospital was recognized by U.S. News and World Report as one of Wisconsin’s best hospitals.

Redefining Healthcare Construction

Miron Construction Co., Inc. was the first contractor in the United States to have professionals accredited and certified in Evidence-Based Design practices. We help clients and design partners create unique experiences for patients or residents, visitors, and staff based on evidence-based design principles and research. Rather than leaving success to chance, we bring research-based best practices to the planning and construction process to capitalize on proven methodologies and outcomes. In the end, we help produce measurable results.

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