Hill-Rom® Med-Surg Solutions
Hill-Rom’s 5 Clinical Focus Areas

**Advancing Mobility**
Medical technology designed to promote the early mobilization and safe transfer of patients

**Wound Care and Prevention**
Solutions to treat and prevent wounds

**Clinical Workflow**
Solutions that automate the clinical environment to improve safety and efficiency

**Surgical Safety and Efficiency**
Surgical products and positioning technology designed to promote safety and procedural efficiency

**Respiratory Health**
Airway clearance devices that help patients breathe easier across all care settings
Hill-Rom® Med-Surg Solutions

**Connectivity**
Nurse Call and Smart Beds that make data actionable, visible, and useful.

**Surfaces**
Powered and non-powered surfaces designed to prevent skin breakdown, and optimize patient comfort.

**Clinical Resources**
Robust Clinical Programs, including Falls Prevention resources.

**Med-Surg Frames**
Full portfolio of frames to meet your specific need.

Hill-Rom provides a complete Med-Surg solution.
Med-Surg Bed Overview
A Full Med-Surg Portfolio

Focused on Patient Safety, Patient Comfort, and Ease-of-Use

CareAssist® ES Bed
Dependable and Practical

Advanta™ 2 Bed
Proven and Intuitive

VersaCare® Bed
State of the Art Innovation
CareAssist® ES Bed

Dependable and Practical

SAFETY
SafeView® System
3-Mode Bed Exit

EASE-OF-USE
OneStep® Siderails
Four-Corner Brake and Steer
Point-of-Care® Controls
Automatic Battery Backup

COMFORT
SlideGuard® Technology
Built-in Bed Extender

CONNECTIVITY
17 Data Points – brakes set, bed in low position, siderail position
Advanta™ 2 Bed
Proven and Intuitive

SAFETY
- CareGrip Handle
- SafeView® System
- 3-Mode Bed Exit

EASE-OF-USE
- OneStep® Siderails
- Four-Corner Brake and Steer
- Point-of-Care® Controls
- Automatic Battery Backup

COMFORT
- SlideGuard® Technology
- Built-in Bed Extender

CONNECTIVITY
- 25 Data Points – brakes set, bed exit alarm on, HOB angle
VersaCare® Bed
State of the Art Innovation

SAFETY
Exit Alarm Silence
Low Height and Low Chair SafeView® System

EASE-OF-USE
Point-of-Care® Controls
OneStep® Siderails
HandsFree® Foot Controls
Automatic Battery Backup

COMFORT
FlexAfoot™ Mechanism
Integrated Bed Extender

CONNECTIVITY
30 Data Points – HOB Angle,
Patient turn frequency,
Wireless (2015)
Surfaces
AccuMax Quantum™ Non-Powered Surface Technology

Targeted and customized therapy for optimal patient support

**Controlled Release™ valve technology** automatically adjusts during patient movement, creating custom pressure relief.

**Viscoelastic foam** contours to body increasing envelopment, helping reduce risk of pressure ulcers and increase patient comfort.

**Targeted pressure redistribution** zones provide additional protection for vulnerable areas.

**Patented Heel Pillow™ and heel gradient** designed to reduce interface pressure in sensitive heel area.

**Viscoelastic foam** contours to body increasing envelopment, helping reduce risk of pressure ulcers and increase patient comfort.

**Targeted pressure redistribution** zones provide additional protection for vulnerable areas.

**Patented Heel Pillow™ and heel gradient** designed to reduce interface pressure in sensitive heel area.
AccuMax Quantum™ Surfaces

Therapy choices for the prevention and treatment of pressure ulcers

AccuMax Quantum™ VPC
AccuMax Quantum™ Convertible
AccuMax Quantum™ Complete

Non-Powered Pressure Redistribution
Alternating Pressure
Low Air Loss and Turn Assist
AccuMax Quantum™

Clinically shown to help reduce facility-acquired pressure ulcers

AccuMax Quantum™ Surfaces helped decrease facility-acquired pressure ulcers by

61.5%

over an 8 month period

according to a study conducted at Saint Joseph Medical Center, Joliet, IL²
**P500 Powered Surface**

*Advanced technology for pressure ulcer management*

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**Weight-based Pressure Redistribution**

Automatically adjusts to patient and bed positioning for optimal redistribution and comfort

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**Optimal Heat and Moisture Management**

**Advanced Microclimate® Technology**:

- Combines airflow beneath surface with material technology to help remove heat and moisture, keeping patient’s skin cool, dry and comfortable

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[Image of a medical bed and human figure illustrating weight redistribution and technology]
P500 Surface

Clinically proven performance in preventing pressure ulcers

The P500 Surface **decreased the incidence of pressure ulcers** associated with the bed surface in a surgical ICU when compared to an integrated power air redistribution mattress.³
Smart Beds

*Beds that can communicate up to 30 data points*

- Bed exit is turned on
- Bed is in the lowest position
- Siderails are up
- Brakes are locked
- HOB is above 30 degrees
- The patient weighs 185 lbs
- The patient has been turned twelve times in the last 24 hrs
Smart Connectivity

*Data that is actionable, visible and useful*

**Connect at the Bedside**

**Connect to NurseCall**

**Connect to the EMR**
- ADT information
- Risk assessments
- Head of bed angle
- Patient weight

**Connect to Clinical Applications**

**Enhance Outcomes**
# Smart Applications

**Hill-Rom NaviCare® Status Board**

![Diagram of NaviCare Status Board](image)

- **Choice of Unit to View**
- **Patient/Room Calls**
- **Bed Exit History**
- **Customizable Columns**
- **Staff to Patient Assignments**
- **Rooms With Located Caregiver**
- **HIPAA-Encrypted Patient Name**
- **Wait Times**
- **Patient Surveillance/Bed Status**
- **Patient Weight**

### Table: Status Board Data

<table>
<thead>
<tr>
<th>Room</th>
<th>Patient</th>
<th>Protocol</th>
<th>Assigned Staff</th>
<th>Call Type</th>
<th>Wait Time</th>
<th>Staff In Room</th>
<th>Bed Exit</th>
<th>Bed Rails</th>
<th>Bed Low</th>
<th>Brake On</th>
<th>HOB</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>101</td>
<td>Ju...R</td>
<td>Lungs</td>
<td>Barbara W.</td>
<td>Can't Place Calls</td>
<td>0:00:00</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>102</td>
<td>R..P</td>
<td></td>
<td>Kyle J.</td>
<td>Normal</td>
<td>0:00:21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>L..S</td>
<td>Lungs</td>
<td>Kyle J.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>St..M</td>
<td>Lungs</td>
<td>Kevin T.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>Ka..R</td>
<td>Lungs</td>
<td>Emily P.</td>
<td>Red Disconnect</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>Ad..L</td>
<td></td>
<td>Doris D.</td>
<td>Emergency</td>
<td>0:00:06</td>
<td></td>
<td></td>
<td></td>
<td>Edward H.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>Jo..H</td>
<td></td>
<td>Albert F.</td>
<td>Code Blue</td>
<td>0:00:02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>Ad..L</td>
<td></td>
<td>Doris D.</td>
<td>Code Blue</td>
<td>0:00:02</td>
<td></td>
<td></td>
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</tbody>
</table>

Enhancing outcomes for patients and their caregivers.
Wireless Bed Connectivity

- A wireless bed connectivity solution for the Progressa® bed and VersaCare® bed (Rev K+) is planned for launch in 2015
  - The intent is to build the solution into new beds, and also make available via the purchase of an upgrade kit for previously purchased beds
- This wireless solution is intended to enable customers to use Hill-Rom clinical applications (e.g. Status Board) as well as third-party software solutions

Availability of the wireless bed connectivity solution and its ultimate functions is dependent on compliance on FDA regulatory requirements for commercial distribution, including possibly obtaining prior marketing authorization from the FDA.
Beyond Just Wireless: How Do You Turn Data into Results?

Hill-Rom’s Commitment to Clinical Applications

Planned Applications for Data Integration
- Wirelessly associate a bed with a location and patient, and send bed data to the EMR, Nurse Call, etc.

Planned Applications for Workflow Automation
- Define desired rounding frequency and use real-time locating and dashboards to identify protocol adherence

Planned Applications for Patient Safety
- Define patient risk protocols (falls, skin, etc.), and utilize dashboards and alerts to identify protocol adherence
Clinical Program Offerings
Hill-Rom® Clinical Solutions

• **People:** 60+ Clinical Outcomes Managers provide hands-on implementation support

• **Programs:** Evidence-based protocols and CE training

• **Technologies:** Innovative technologies for the patient care environment

• **Results:** *Impact Tracker™* Quality Improvement program helps measure clinical and financial outcomes in a unit or across a system
Inpatient Fall Prevention

The challenges falls present:

- Up to 1,000,000 hospital patients fall per year\(^4\)
- 11,000 deaths from fall related injuries... 30 people every day\(^4\)
- Average cost of a fall w/serious injury in hospital $27,000\(^5\)... and this is not reimbursed\(^6\)
- 96% of hospital patient falls are preventable\(^7,8\)

Hill-Rom can help:

- A protocol that targets risk factors with meaningful interventions
- Interdisciplinary approach based on current Evidence Based Practice
- Built in collaboration with national thought leaders
- Supported by more than 60 Clinical Outcome Managers around the country

Hill-Rom Fall Prevention Program toolkit
# Fall Prevention Program Toolkit Resources

| Understand Your Challenge | • CE Course: Fall Prevention & Injury Reduction Overview  
|                           |   • Impact Tracker™ QI Tool |
| Gain Administrative Support | • Business Case Presentation template  
|                            |   • Financial Impact ROI Model |
| Design Your Program | • CE Course: Patient Risk Assessment with the Morse Fall Scale  
|                    |   • Fall Prevention Protocol |
| Choose and Use Equipment | • RoomBuilder® Tool for design and build  
|                          |   • Product selection and training support |
| Implement Your Program | • Fall Prevention Program Protocol Posters & Pocket Guides  
|                    |   • Fall Prevention Program Population Case Studies |
| Measure Quality Improvement | • Impact Tracker™ QI Tool |
Appendix
# CareAssist® ES Bed

## SAFETY
- **SafeView® System**
  Green or amber light displays bed safety status
- **3-Mode Bed Exit**
  Advanced bed exit system for optimal safety notification

## EASE-OF-USE
- **OneStep® Siderails**
  Only one hand to raise or lower; siderails drop away from tubes or leads
- **Four-Corner Brake & Steer**
  Easy access when patient is exiting or entering the bed
- **Point-of-Care® Controls**
  Located on bedside where patient and caregiver interaction occurs
- **Automatic Battery Backup**
  Articulation and nurse call features are functional when not connected to AC power

## COMFORT
- **SlideGuard® Technology**
  Designed to help minimize torso compression and improve patient comfort
- **Built-in Bed Extender**
  Lengthen or shorten the bed to meet your patient’s needs

## CONNECTIVITY
- **Actionable Connectivity Data**
  Up to 17 data points including brakes set, bed in low position, siderails up, exit alarm on, patient weight
## Advanta™ 2 Bed

<table>
<thead>
<tr>
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<th>EASE-OF-USE</th>
<th>COMFORT</th>
<th>CONNECTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SafeView® System</strong>&lt;br&gt;Green or amber light displays bed safety status</td>
<td><strong>OneStep® Siderails</strong>&lt;br&gt;Only one hand to raise or lower; siderails drop away from tubes or leads</td>
<td><strong>SlideGuard® Technology</strong>&lt;br&gt;Designed to help minimize torso compression and improve patient comfort(^1)</td>
<td><strong>Actionable Connectivity Data</strong>&lt;br&gt;Up to 25 data points including HOB angle, HOB alarm set, CPR set</td>
</tr>
<tr>
<td><strong>3-Mode Bed Exit</strong>&lt;br&gt;Advanced bed exit system for optimal safety notification</td>
<td><strong>Four-Corner Brake &amp; Steer</strong>&lt;br&gt;Easy access when patient is exiting or entering the bed</td>
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</tr>
<tr>
<td><strong>CareGrip Handle</strong>&lt;br&gt;Ergonomically correct grip helps provide stability when patient is exiting bed</td>
<td><strong>Point-of-Care® Controls</strong>&lt;br&gt;Located on bedside where patient and caregiver interaction occurs</td>
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<td><strong>Automatic Battery Backup</strong>&lt;br&gt;Articulation and nurse call features are functional when not connected to AC power</td>
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### VersaCare® Bed

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<th>EASE-OF-USE</th>
<th>COMFORT</th>
<th>CONNECTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exit Alarm Silence</strong>&lt;br&gt;Conveniently silence 3 mode bed exit alarm, resets once patient is properly positioned back in bed</td>
<td><strong>OneStep® Siderails</strong>&lt;br&gt;Only one hand to raise or lower; siderails drop away from tubes or leads</td>
<td><strong>SlideGuard® Technology</strong>&lt;br&gt;Designed to help minimize torso compression and improve patient comfort(^1)</td>
<td><strong>Actionable Connectivity Data</strong>&lt;br&gt;Up to 30 data points including integrated surface turned on, turn assist, surface max inflate, and wireless connectivity (2015)</td>
</tr>
<tr>
<td><strong>Low Height &amp; Low Chair</strong>&lt;br&gt;One button chair activation, maintain low height</td>
<td><strong>Four-Corner Brake &amp; Steer</strong>&lt;br&gt;Easy access when patient is exiting or entering the bed</td>
<td><strong>Built-in Bed Extender</strong>&lt;br&gt;Lengthen or shorten the bed to meet your patient’s needs</td>
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Hill-Rom® Frame Innovations
Patient Comfort

Built-in Bed Extenders/FlexAfoot™ Feature

HISTORY
Separate attachment required additional time and work to locate and install.

INNOVATION
Built-in Bed Extenders / FlexAfoot™ Feature*

SOLUTION
Hill-Rom’s Built-in bed extender and FlexAfoot™ features allow nurses to easily customize the length of the bed.

BENEFIT
Helps prevent patients from sliding down in bed.

Helps minimize the need for repositioning.

*Available only on VersaCare® Bed
**Patient Comfort**

*SlideGuard® Technology*

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**Retractable Bed Frame**

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**INNOVATION**

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**SlideGuard® Frame Technology***

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**HISTORY**

Developed by Hill-Rom in 1964: kept patient near non-moveable bedside cabinets.

Increased pressure between shoulder and buttock area.

**SOLUTION**

Adapts to the changing profile of patient when raising the HOB, helping reduce patient migration to foot end of bed.

**BENEFIT**

Demonstrated 29% less torso compression than fixed pivot frame.¹

May also improve patient comfort.

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*Available only on CareAssist® and Advanta™ 2 Beds*
**Patient Safety**

**3-Mode Bed Exit**

**Single-Mode Bed Exit**

**HISTORY**

Developed in 1985: designed to alert caregivers when a patient exited the bed.

Provided one level of sensitivity. Alerted caregiver only after patient exited, potentially leading to fall.

**3-Mode Bed Exit**

**INNOVATION**

Bed exit system based on patient’s weight; three sensitivity options detect whether patient is:

- lying on bed
- sitting on edge of bed
- out of bed

**SOLUTION**

**BENEFIT**

Allows nurses to choose the appropriate alarm setting.

Helps reduce patient falls related to unsupervised bed egress, in conjunction with a hospital’s falls protocol.
Patient Safety

SafeView® Patient Alert System

Patient Alert System

INNOVATION

SafeView® Visual Safe Bed Indicator

**HISTORY**

System alerts if a specific condition has changed and needs attention.

Lights on end of footboard shine on the wall; may be difficult for caregiver to see and may illuminate entire room.

**SOLUTION**

Monitors bed status when not in “protocol” positions.

Visual notification of compromised safety conditions.

**BENEFIT**

Helps reduce patient falls related to unsupervised bed egress, in conjunction with a hospital’s falls protocol.

Lights on bottom of footboard for easy recognition of patient’s bed status.
Patient Safety

Bed Exit Alarm Silence

Bed Exit Alarms

INNOVATION

Bed Exit Alarm Silence*

HISTORY

Developed in 1985: senses patient’s center of gravity shift; alerted when patient was leaving bed.

Caregivers had to remember to reset the bed exit alarm. If alarm is not reset, potential for a patient fall.

SOLUTION

Can reset exit alarm instead of turning it off.

Auto resets alarm once patient is properly positioned.

BENEFIT

Supports hospital’s fall prevention protocols.

Assists in keeping the alarm engaged without relying on repetitive caregiver intervention.

*Available only on VersaCare® Bed
Caregiver Ease-of-Use

*Four Corner Brake and Steer*

**HISTORY**
Developed by Hill-Rom in 1974 to eliminate the need to lock four individual casters.

Located under patient’s exiting point; could be difficult to access, and patient could accidentally activate.

**SOLUTION**
Brakes located on all four corners and away from the patient exiting point.

**BENEFIT**
Controlled with one-press foot pedal; easily accessed by caregiver.

Reduces chance of patient activation.
Caregiver Ease-of-Use

*Point of Care® Bedside Controls*

**HISTORY**
Caregivers need to walk away from patient’s side to access.
Possibility of damage during transport can lead to downtime and expensive repairs.

**SOLUTION**
Controls on both siderails reduce requirement to walk around bed.

**BENEFIT**
Caregiver can remain at patient’s side while operating the bed.
Better protected, may reduce downtime and help eliminate costs due to repair.
Caregiver Ease of Use

OneStep® Siderails

**HISTORY**

Hill-Rom developed in 1974; siderails could be placed in half-down position.

Difficult to raise/lower, often left in the lowered half-down position; did not provide maximum protection to patients.

**INNOVATION**

**SOLUTION**

Siderail can be raised/lowered with one hand; helps eliminate confusion and reduce risk of injury.

**BENEFIT**

Provides correct leverage to facilitate safe bed entry and exit by patients.

Provides access to patient controls when HOB is raised and siderail in full up position.
Caregiver Ease of Use

Low Height

**HISTORY**
Hill-Rom developed in 1991 to acclimate patients to sitting upright until they had the strength to leave the bed.

Height of the bed in chair position presents a challenge for patient egress.

**SOLUTION**
Allows the patient to be placed in a chair position without raising height of the bed.

**BENEFIT**
May help avoid stress, strain, and discomfort associated with repositioning.

Low positions help make it easy for patients to get in and out of bed.
Caregiver Ease of Use

*HandsFree® Foot Controls*

**Caregiver Controls**

**HISTORY**
Located only on siderails to reduce the need to walk around beds.

Caregivers needed an alternative to adjust bed while hands engaged in patient care activities.

**SOLUTION**
Raise and lower height and head of the bed using hands-free controls.

**BENEFIT**
Located on both sides and enables hands-free height adjustment.

Foot controls feature a built-in ‘Enable’ control that requires activation before operation.

*Available only on VersaCare® Bed*
References

1. **In a peer-reviewed laboratory study, a bed with a SlideGuard® frame demonstrated 29% less torso compression than a bed with a fixed pivot frame.** Susan E. Kotowski, Kermit G. Davis, Neal Wiggermann and Rachel Williamson, Human Factors: The Journal of the Human Factors and Ergonomics Society 2013 55: 36, 2013.


