MHA’s roadmaps provide hospitals and health systems with evidence-based recommendations and standards for the development of topic-specific prevention and quality improvement programs, and are intended to align process improvements with outcome data. Road maps reflect published literature and guidance from relevant professional organizations and regulatory agencies, as well as identified proven practices. MHA quality and patient safety committees provide expert guidance and oversight to the various road maps.

Each road map is tiered into fundamental and advanced strategies:
- **Fundamental strategies** should be prioritized for implementation, and generally have a strong evidence base in published literature in addition to being supported by multiple professional bodies and regulatory agencies.
- **Advanced strategies** should be considered in addition to fundamental strategies when there is evidence the fundamental strategies are being implemented and adhered to consistently and there is evidence that rates are not decreasing and/or the pathogenesis (morbidity/mortality among patients) has changed.

**Operational definitions** are included to assist facility teams with road map auditing and identifying whether current work meets the intention behind each road map element.

**Resources** linked within the road map include journal articles, expert recommendations, electronic order sets and other pertinent tools which organizations need to assist in implementation of best practices.

<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FUNDAMENTAL</strong></td>
<td><strong>(check each box if “yes”)</strong></td>
<td></td>
</tr>
</tbody>
</table>
| ☐ The facility has an interdisciplinary team involved in implementing and maintaining the pressure injury prevention program with representation from across the facility. | A committee charter provides the interdisciplinary team with guidance and direction on the purpose and activities of the committee. Consider the following resource when setting up a pressure injury committee:  
  - [Example Safe Skin Team/Committee Charter](#) |                                                                    |
| - Operational definition: Develop a structured, tailored and multi-faceted approach to overcome barriers and enhance facilitators for protocol implementation. | Communicating the patient’s risk of pressure injury development is an essential step in prevention activities. To ensure that all team members are aware of those patients who have developed a pressure injury or who are at risk consider the following resource:  
  - [Pressure Injury Unit Log](#) |                                                                    |
<p>| ☐ Department specific policies are in place to address their unique role in preventing pressure injuries. | Clear communication between team members is crucial in ensuring patient safety. Consider the AHRQ TeamSTEPPS pocket guide for communication templates and overall |                                                                    |
| ☐ Skin safety representation/champions are promoted throughout the facility. |                                                                    |                                                                    |
| - Operational definition: These skin champions/team members/liaisons have clear, designated roles and expectations. |                                                                    |                                                                    |
| ☐ There is a process in place to communicate patient’s pressure injury risk and skin integrity status during structured hand-offs across departments. |                                                                    |                                                                    |</p>
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Skin safety coordination and team approach, continued | The program has at least one team member with a background/education/certification in wound care. | TeamSTEPPS resources.  
• [AHRQ TeamSTEPPS Pocket Guide](#) |
| **ADVANCED** (check each box if “yes”) | The pressure injury prevention program is reviewed by the team and updated quarterly.  
Pressure injury case studies are routinely shared through patient stories/lived experiences, as well as through data. | |
| Facility expectations and staff education | Expectations and supporting competency based education has been incorporated into new employee orientation for all interdisciplinary team members who provide patient care. | Establishing evidence-based protocols/standards is a critical step in pressure injury prevention. Consider using the NPUAP quick reference guide and WOCN Society website when setting up your organization’s education practices and best practice recommendations. Additional resources to setup best pressure injury prevention and the MHA perioperative |

**FUNDAMENTAL** (check each box if “yes”)  
- The facility has a concurrent reporting process (such as incidence reporting) in place to collect all stages of pressure injury.  
- Pressure injury data and learnings are shared at least quarterly  
  - Within units  
  - Across units  
  - Across departments  
  - With leadership  

**ADVANCED** (check each box if “yes”)  
- There is a process in place to audit the reliability of the reporting process through incidence studies/surveys.  
- A process is in place to track and analyze data regarding incontinence-associated dermatitis.  

**Understanding data collection methodologies is important to confirm the accuracy and reliability of the data. Consider using the MHA data specifications to ensure that pressure ulcer/injury data is being collected according to national standards.**  
- [MHA Data Specifications](#)  

**Reportable pressure injuries often develop because of breakdowns in the system. Consider using the NPUAP RCA process to examine the root cause of reportable pressure injuries within your organization.**  
- [NPUAP RCA Process](#)
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Facility expectations and staff education, continued | □ The facility expects that evidence-based practice recommendations (e.g. NPUAP and WOCN Society recommendations) are used as resources for:  
- Updating policies and procedures  
- Updating education materials and methods  
- Developing action plans for perioperative and device related pressure injuries  
□ Staff pressure injury prevention competence is re-evaluated on an annual basis. | recommendation and guidance.  
• NPUAP Quick Reference Guide (pg. 67)  
• WOCN Society website  
• NPUAP Device Related Pressure Injury Prevention  
• MHA Perioperative Recommendations and Guidance |
| ADVANCED  
(check each box if “yes”) | □ Staff pressure injury prevention competence is re-evaluated on an annual basis.  
□ The facility has a process in place for real time dialogue, barrier identification and education related to pressure injury prevention (e.g. daily huddles, weekly skin rounds, interdisciplinary rounding, wound RN consult). | According to the Agency for Health Care Research and Quality (AHRQ) (2016), one root cause of patient harm is the result of communication lapses among team members. Consider using the rounding template to improve real time team dialogue on pressure injury prevention.  
• Example Rounding Template  
Communicating the patient’s risk of pressure injury development is an essential step in prevention activities. To ensure that all team members are aware of patient’s risk or those who have developed a pressure injury consider the following resource:  
• Pressure Injury Unit Log |
| Education of patients and families | FUNDAMENTAL  
(check each box if “yes”)  
□ Patient/family education tools are disseminated for skin safety to patients at risk for pressure injuries.  
□ Patient/family education tools incorporate the prevention of device-related pressure injuries (e.g. cervical collars, respiratory devices).  
• INJURY Bundle  
Including the patient and family in pressure injury prevention helps to reduce harm. Consider using the New Jersey Patient and Family Engagement Tool to begin to include patients and families in prevention activities.  
• New Jersey Hospital Improvement Innovation Network (HIIN) Patient and Family Engagement Tool |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Education of patients and families, continued | **ADVANCED**  
(check each box if “yes”)  
☐ The facility requires and has a designated place to document skin safety education and patient/family response. | It can be difficult to know where to start with patient and family engagement. The patient and family engagement checklist developed by AHRQ assist staff in understanding essential components and provides an opportunity for them to identify areas of improvement.  
• [Patient and Family Engagement Checklist](#) |
| Best practice skin inspection and risk assessment | **FUNDAMENTAL**  
(check each box if “yes”)  
☐ The facility requires and has a designated place to document the Braden/Braden Q (pediatric) pressure injury risk assessment upon admission and daily or per hospital standard.  
☐ Skin inspections are performed and documented on admission, daily per hospital standard, and when there is a change in patient condition. This includes a complete skin inspection between skin folds, buttocks, and under and around devices.  
☐ The facility requires and has a designated place to document a complete skin inspection on admission (ideally within eight hours) and at least daily as well as when there is a change in patient condition.  
☐ Risk assessment findings are linked to specific interventions.  
☐ Pressure injury prevention and treatment products are readily available.  
  - At a minimum, this includes:  
    ○ Skin moisture barrier products  
    ○ Appropriate incontinence containment products/bedding  
    ○ Pressure redistribution mattresses  
    ○ Heel offloading devices  
    ○ Pillows or wedges for repositioning  
    ○ Repositioning slings/sheets to use with ceiling lifts  
  - Treatment products and incontinence care products are organized in a common location that is readily accessible to staff | Establishing evidence based protocols/standards is a critical step in pressure injury prevention. Consider using the NPUAP quick reference guide and HRET Hospital Acquired Pressure Ulcer Change Package when developing risk assessment protocols. Additional resources to setup best practice recommendations include the INJURY bundle and INJURY bundle auditing tool.  
• [NPUAP Quick Reference Guide (pg. 14)](#)  
• [HRET Hospital Acquired Pressure Ulcer Change Package (pg. 6)](#)  
• [INJURY Bundle](#)  
• [INJURY Bundle Auditing Tool](#) |
| Best practice skin inspection and risk assessment | **ADVANCED**  
(check each box if “yes”)  
☐ Staff and resources are accessible for trouble-shooting devices and complex patients at high risk for pressure injury development.  
☐ Staff have been educated on the availability of troubleshooting resources. |  |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| **FUNDAMENTAL**    | (check each box if “yes”)                                                                                                                                 | According to AHRQ (2014), a care bundle combines best practice recommendations to improve patient care and outcomes. Consider using the MHA INJURY bundle to implement evidence based pressure injury prevention best practices. The INJURY bundle auditing tool provides team members with the opportunity to assess which bundle elements are being implemented and those that may need additional attention.  
- INJURY Bundle  
- INJURY Bundle Auditing Tool  
- HRET Hospital Acquired Pressure Ulcer Change Package (pg. 8-9) |
| ☐ Reposition all individuals at risk of or with existing pressure injuries, unless medically contraindicated, at least every two hours. |   |   |
| ☐ When regular repositioning is medically contraindicated, hourly micro-shifts/off loads or slow incremental tilts of 10-15 degrees is required. |   |   |
| ☐ When regular repositioning is medically contraindicated retrials are conducted, and documented every eight hours to re-evaluate for optimal 2-hour repositioning. |   |   |
| ☐ When patients decline, or refuse repositioning, documentation of informed refusal and reason for refusal is required. |   |   |
| ☐ Evaluation and use of appropriate support surfaces (mattresses, chair cushions, OR, transport, and procedure surfaces).  
  - At a minimum, this includes:  
    - The requirement that pressure injury redistribution surfaces be used for patients with a Braden score of <18.  
    - A process in place to have an advanced support surfaces readily available so that patients with anticipated medical contraindications to repositioning can be initially place on an appropriate surface.  
    - Support surfaces are evaluated across the entire organization for appropriate pressure redistribution properties (e.g. OR beds, chair cushions, transport carts, radiology tables, emergency department gurneys).  
  - The facility requires off-loading/ floating of heels anytime patients have deficits in sensation, perfusion, mobility and/or inability to communicate pain (e.g. sedation, neuropathy, PVD). |   |   |
| **ADVANCED**       | (check each box if “yes”)                                                                                                                                 | Choosing the appropriate support surface for pressure injury prevention can be difficult. The Wound, Ostomy and Continence Nurses Society (WOCN) (2015) developed an evidence based algorithm that assists clinicians in properly identifying support surfaces based on the patient’s risk.  
- WOCN Support Surface Algorithm |
| ☐ Adherence with repositioning is monitored (e.g. chart/observational audits). |   |   |
| ☐ The facility has support surface/off-loading decision-making tools that are accessible to the staff.  
  - The support surface algorithm identifies advanced support surfaces with features and components such as low air loss, viscous fluid, air fluids and/or alternating pressure for patients that are not adequately repositioned. |   |   |

© 2017 Minnesota Hospital Association | 5
<table>
<thead>
<tr>
<th>Best practice minimizes pressure, friction and shear, continued</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| **ADVANCED, continued** (check each box if “yes”)            | ☐ A plan/process is in place for replacement or supplementation of surfaces that do not provide adequate pressure redistribution for at risk patients.  
- This includes the need for a system to track the start date of support surface use and expiration of mattress.  
☐ There is a standard process in place to identify patient mobility status and a system in place to alert all staff to this status.  
- This includes a plan to utilize appropriate staff and equipment for transfers and/or repositioning as indicated by patient mobility status. | |
| **FUNDAMENTAL** (check each box if “yes”)                     | ☐ The facility requires the use of cleansers specifically designed for the perineal area for patients with incontinence and ensures that this product is readily available.  
☐ The facility requires the use of moisture barriers for patients with incontinence.  
☐ The facility has a process in place for scheduled toileting for incontinent patients (e.g. hourly rounding, toileting prior to end of shift). | Incontinence and increased moisture can put patients at considerable risk for pressure injury development. Consider using the Victorian Quality Council Safety and Quality in Health Quick Reference Guide for implementation of incontinence best practice protocols. |
| **ADVANCED** (check each box if “yes”)                        | ☐ The formulary for incontinence products is user friendly and standardized.  
- At a minimum, the formulary includes:  
  ○ Containment briefs  
  ○ Chux and/or bed pads  
  ○ Perineal cleansers  
☐ Staff are educated on minimizing layers between the patient and the bed. | • Action for Person Risk Factors (slides 12&13) |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Best practice nutrition</strong></td>
<td><strong>FUNDAMENTAL</strong> <em>(check each box if “yes”)</em>&lt;br&gt;☐ Nursing nutritional risk screening is completed within 24 hours of patient admission (ideally within 8-12 hours of admission).&lt;br&gt;☐ If the patient is at nutritional risk and/or risk for pressure injuries as defined by the Braden sub-score of &lt;2, a process is in place to request a nutrition consult within 24 hours of admission.&lt;br&gt;  - The facility’s process for nutritional consults indicate a time frame for completing the consult after a request is received.&lt;br&gt;☐ A process is in place for the interdisciplinary team to additional nutritional nourishment as appropriate to assist with healing.&lt;br&gt;<strong>ADVANCED</strong> <em>(check each box if “yes”)</em>&lt;br&gt;☐ Facility does not recommend pre-albumin and albumin levels as independent markers of nutritional status and should not be used in isolation as a trigger for a nutritional consult.</td>
<td>Establishing evidence-based protocols/standards is a critical step in pressure injury prevention. Consider using the NPUAP quick reference guide and MHA pressure ulcer prevention with respiratory devices and cervical collar recommendation and guidance when developing device prevention protocols. Additional resources to setup best practice recommendations for soft nasal cannula include, Westmed, Salter Labs, Medline and Teleflex.  - NPUAP Best Practices for Prevention of Medical Device-Related Pressure Ulcers  - MHA Pressure Ulcer Prevention with Respiratory Devices  - Comfort Soft Plus Nasal Cannula, Westmed  - Flexi-soft Cannula, Salter Labs  - Soft-touch Adult Cannula, Medline  - Softech Plus Nasal Cannula, Teleflex  - MHA Cervical Collar Recommendation and Guidance</td>
</tr>
<tr>
<td><strong>Best practice medical devices</strong></td>
<td><strong>FUNDAMENTAL</strong> <em>(check each box if “yes”)</em>&lt;br&gt;☐ Remove devices (or position nonremovable devices) to inspect the skin under and around the device.&lt;br&gt;☐ Respiratory devices&lt;br&gt;  - Soft flexible tubing (e.g. silicone tubing) is the standard oxygen tubing used hospital-wide.&lt;br&gt;  - If a soft tubing option does not exist, e.g. high flow tubing, ear protection is used to protect the skin around the ears.&lt;br&gt;  - The organization requires, and assigns responsibility for, the inspection of skin beneath and around respiratory devices.&lt;br&gt;  - Respiratory therapy is an active member of the pressure injury prevention team.&lt;br&gt;  - A respiratory therapy champion(s) is designated for pressure injury prevention related to respiratory devices.</td>
<td></td>
</tr>
<tr>
<td>Road map sections</td>
<td>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</td>
<td>If specific road map element is missing, consider the following resources:</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| FUNDAMENTAL, Continued | *(check each box if “yes”)*  
○ This includes partnering with the skin champion(s) to provide coaching, education and protocols for respiratory therapist and nursing staff on skin inspections and pressure ulcer prevention practices related to respiratory devices, on the proper fitting of CPAP/BiPAP, and for preventing pressure ulcers on the bridge of the nose and nares due to pressure from oxygen masks and nasal cannulas.  
☐ Cervical collars  
- If the patient condition permits, the skin is inspected and cleaned during change from transport collar to longer-term collar.  
- Orthotist, or another trained provider, is consulted for appropriate collar fit.  
- Patients are removed from backboard on arrival in emergency department or as soon as possible.  
- Standardized processes are in place to achieve definitive care, e.g. collar removal, change to longer-term collar, within 24 hours or less.  
- Staff is trained in proper technique for cervical collar placement  
- If collar has removable inner pads, pads are changed and washed every 24 hours (and as needed).  
- Staff is trained in proper technique for skin inspection and care of skin related to cervical collars. | |
| ADVANCED | *(check each box if “yes”)*  
☐ Respiratory devices  
- Strap tension and skin integrity beneath and around life sustaining Bi-PAP and NPPV masks are checked at least every four hours, with oral intake and with oral cares.  
- During routine tracheostomy site care (at least every 8-12 hours) skin integrity and tension is checked under straps, around and in back of the neck, around the stoma and under the tracheostomy tube flange/faceplate.  
- The tension and skin integrity under and around ETTs and straps is checked every two hours, when repositioning patient, with close attention to the neck, lips and mouth. | |
**ADVANCED, continued**
*(check each box if “yes”)*

- When using commercial stabilizers, the position of the ETT is rotated at least every two hours when repositioning patient in the direction the patient is positioned (e.g. if patient is positioned on left side, rotate ETT to the left, when patient is repositioned to the right side, rotate ETT to the right).
- An order set, protocol, or documented process is in place for the management of newly placed tracheostomy tubes, included suture removal, following surgery to reduce the potential for pressure injuries developing in and around the faceplate and flange
  - This includes setting a trigger for post-op day 5 to begin daily re-evaluation of the need for sutures to secure the newly placed tracheostomy.
- For neonates (age <28 days from expected due date), the tension and skin integrity under and around the ETTs and straps is checked during routine cares, with close attention to the neck, lips, and mouth.

- [ ] Cervical collars
- Education provided to patients/family prior to discharge and includes information on application, wearing and removal of collar, proper cervical alignment, skin care and inspection and collar pad cleaning.

**FUNDAMENTAL**
*(check each box if “yes”)*

- [ ] Perioperative staff assesses the patient’s surgical risk factors for pressure injury development.
- [ ] An OR table mattress pad with pressure redistributing properties greater than the standard OR mattress pad is used for patients at high-risk for pressure injury development.
- [ ] Patient’s pressure injury risk, correct patient position and related equipment is communicated to the full perioperative team through a pre-operative briefing or other communication strategy.
- [ ] Perioperative staff is educated on areas of increased risk for pressure injuries, based on patient position, and strategies for reducing pressure injury risk.

Establishing evidence based protocols/standards is an critical step in pressure injury prevention. Consider using the NPUAP quick reference guide and MHA operating room recommendation and guidance when developing OR prevention protocols.

- [ ] NPUAP Quick Reference Guide (pg. 57-58)
- [ ] MHA Operating Room Recommendations and Guidance
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FUNDAMENTAL, Continued</strong>&lt;br&gt;<em>(check each box if “yes”)</em></td>
<td>During pre-op and post-op, patients are repositioned to alternate positions if not medically contraindicated.</td>
<td></td>
</tr>
</tbody>
</table>
| **ADVANCED**<br>*(check each box if “yes”)* | Responsibility for positioning and repositioning the patient is assigned and well defined.  
Patients with expected postoperative hemodynamic instability and medical contraindications to turning are placed on an advanced support surface with features and components such as low air loss, viscous fluid, air fluids, or alternating pressure for postoperative care. | |