# AHRQ’s Safety Program for Nursing Homes: On-Time Prevention

### Pressure Ulcer Healing

## Functional Specifications

### 1.0. General Information

#### 1.1. Background

The On-Time Pressure Ulcer Healing reports were developed to provide nursing home leadership and nursing staff with tools to effectively monitor and manage pressure ulcers at the resident, nursing unit**,** and facility level. Included with these reports is a standardized pressure ulcer assessment that provides a set of structured, standardized data elements for comprehensive weekly documentation of pressure ulcer assessments that also includes treatments and interventions.

Five electronic reports are included in On-Time Pressure Ulcer Healing (Table 1), as well as a menu of suggested implementation strategies for using each report. See the On-Time Pressure Ulcer Healing description available on AHRQ’s Web site (<http://www.ahrq.gov/professionals/systems/long-term-care/resources/pressure-ulcers/pressureulcerhealing/index.html>) to learn more about report use.

#### 1.2. EMR Vendor Prerequisites

The following electronic medical record (EMR) capabilities are necessary to provide the required data elements for On-Time reports:

* Unique ID. System must assign a unique identifier (ID) to each pressure ulcer. For example, if a resident has nine pressure ulcers, then the system assigns a unique ID to each.
* Nurse documentation of wound assessments each week.
* Physician order entry or electronic treatment administration record.
* Certified nursing assistant (CNA) daily documentation of meal intake, bowel and bladder habits, and activities of daily living (ADLs) such as bed mobility, transfer, and toileting.

If any of the above functionality is not available, reports may be missing data.

#### 1.3. Report Users

Users of On-Time reports include any licensed staff with permission to access data stored in the resident medical record for care planning and decisionmaking. This may include licensed clinical staff from multiple disciplines: all nursing positions, including managers, supervisors, charge nurses, other staff nurses, MDS nurses,[[1]](#footnote-1) wound nurses, and staff educators; quality improvement staff; dietitians; rehabilitation staff; and social workers. Physicians, nurse practitioners, and physician assistants may also access the reports. The primary users of pressure ulcer healing reports are facility staff responsible for documenting pressure ulcer assessments, and monitoring and/or managing the healing process.

#### 1.4. On-Time Pressure Ulcer Healing Reports

This document describes the functional and high-level system requirements for each clinical report included in On-Time Pressure Ulcer Healing. It is intended to provide enough information for EMR vendor programmers to produce technical specifications, develop the reports as designed, and incorporate reports into the vendor’s EMR product. Data sources and rules specific to each report are included.

The reports included in On-Time Pressure Ulcer Healing and described in this document are listed in the table below.

Table 1. On-Time Pressure Ulcer Healing Reports

|  |  |
| --- | --- |
|  | Reports Included in the Module |
| 1 | Existing Pressure Ulcer Report |
| 2 | Pressure Ulcers At Risk for Delayed Healing |
| 3 | Weekly Wound Rounds Report |
| 4 | Weekly Pressure Ulcer Treatment Report |
| 5 | Pressure Ulcer Counts by Month  |

### 2.0. Report Specifications

#### 2.1. Report Titles

The functional specifications for all On-Time reports are available to any long-term care EMR vendors who want to incorporate On-Time reports into their product. All reports must be labeled “On-Time” and developed as specified, to maintain the integrity of the reports for facilities participating in the On-Time Pressure Ulcer Healing Program.

Nursing home facilities adopting any of the On-Time reports work with an On-Time facilitator who adheres to a structured implementation plan using detailed implementation and guidance materials for each report. The implementation materials are written to support use of the On-Time reports as designed and are provided to nursing home implementation teams. Therefore, it is critical for successful implementation of the program and end user adoption of the module that reports be clearly labeled as “On-Time” and developed as designed.

#### 2.2. Report Headers and Footers

General report header and footer information is contained in the table below. If this differs by report, the information will display in the section of the document where the report is described.

Table 2. Standard Headers and Footers

|  |  |  |
| --- | --- | --- |
|  | Data Source | Valid Input and Display |
| Report Header |
| Report Title | Reports | On-Time [name of report]Display top centerDisplay facility name and/or logo per EMR vendor format. |
| Nursing Unit | System | Display the nursing unit name that is selected by the user during report parameter setup.Display in the top left margin unless the vendor has a standard format to display nursing unit name. |
| Report Ending Date |  | Display the report ending date that is specified by the user during report parameter setup.Display in the top left margin unless the vendor has a standard format to display report dates. |
| Footer |
| Print Date | System  | Display month/date/year the report was generated.Use EMR vendor preferred format for month, date, and year formats and where to display print date. |
| Text |  | Display:“Source: Agency for Healthcare Research and Quality, 2014.”Display in the bottom left margin. |

#### 2.3. General Report Rules

The following rules apply to all reports.

##### 2.3.1. Exclusions

* **Residents** **no longer being treated at the facility**, which includes residents with discharge dates within 7 days prior to the report date.
* **Physician orders with discontinuation dates or expiration dates within 7 days prior to the report date and during calculation periods**; includes medication profiles.
* **Ulcers that are healed**, which are considered inactive.
* **Incomplete CNA charting.** The following CNA documentation elements mus**t** have 75 percent of the documentation completed to perform calculations used in the reports:
* Meal intake
* Bowel
* Bladder
* ADL assistance needed and support provided for bed mobility, transfer, and toileting.

The following table describes a process that may be used to determine documentation completion percentages for specific CNA documentation sections. The EMR vendor can use an existing mechanism to determine documentation completion by section, if available, and the rule meets the minimum requirement for 75 percent completion.

**Note:** These are the same rules described in the On-Time Pressure Ulcer Prevention Functional Specifications.

Table 3. CNA Documentation Completeness Rules

| Any Report Column That Includes | Determine Documentation Completeness |
| --- | --- |
| Resident meal intake documentation (for breakfast, lunch, and dinner) | 1. For each resident, count the number of times a meal intake entry was made for the current week.
2. Divide the count by the total number of meals possible for the current week (i.e., if a resident was not on unit for specific days during the week, the possible number of meals should be reduced).
3. Report the value as a percentage (allow one decimal point).
4. If the completeness for a resident is ≥75%, set meal intake completeness flag to true. (This will be used to identify which residents appear on subsequent reports.)
 |
| Resident bowel documentation | 1. For each resident, count the number of shifts a bowel entry was made for the current week. (Example: a week is defined as a static week starting every Monday through Sunday.)
2. Divide the count by the total number of shifts possible for the current week (i.e., if a resident was not on unit for specific days during the week, the possible number of shifts should be reduced).
3. Report the value as a percentage (allow one decimal point).
4. If the completeness for a resident is ≥75%, *set bowel completeness flag to true*. (This will be used to identify which residents appear on subsequent reports.)
 |
| Resident bladder documentation | 1. For each resident, count the number of shifts a bladder entry was made for the current week. (Example: a week is defined as a static week starting every Monday through Sunday.)
2. Divide the count by the total number of shifts possible for the current week (i.e., if a resident was not on unit for specific days during the week, the possible number of shifts should be reduced).
3. Report the value as a percentage (allow one decimal point).
4. If the completeness for a resident is ≥75%, *set bladder completeness flag to true*. (This will be used to identify which residents appear on subsequent reports.)
 |
| ADLs: assistance needed and support provided | * For each ADL component, repeat steps 1-4 for the following:
	+ Bed mobility
	+ Transfer
	+ Toileting
 |

##### 2.3.2. Report Parameters

End users must be able to:

* Filter reports by nursing unit or by facility;
* Specify a report end date to generate reports for specific periods; and
* Specify a date range or calendar month, depending on available report parameters for a specific report.

##### 2.3.3. Pressure Ulcer Identifiers

The EMR system automatically assigns a unique identifier to each new pressure ulcer.

Wound assessments are linked to a single wound identifier. The vendor determines the methodology to assign unique IDs to resident wounds.

* One approach may be: Unique Pressure Ulcer ID = Resident ID + Ulcer Onset Date + Ulcer Location and/or Ulcer Stage.
* If two ulcers are identified on the same date for a single resident and the location is the same, the system must ensure that each ulcer is assigned a unique ID.

##### 2.3.4. Wound Assessment

The On-Time Wound Assessment is used to record weekly pressure ulcer assessment. If the facility is not using the On-Time Wound Assessment, the EMR vendor conducts a gap analysis to ensure required report elements are available and reports are developed as designed.

### 3.0. Specifications for Each Pressure Ulcer Healing Report

#### 3.1. Existing Pressure Ulcers Report

This weekly report provides the clinician with a comprehensive list of all residents with at least one existing pressure ulcer during the report week, as informed by nurse documentation of weekly wound assessments.

##### 3.1.1. Report Description

The report displays a list of residents who have existing pressure ulcers during the report period. This is a weekly report.

##### 3.1.2. Dependencies and Clinical Assumptions

Ulcers that are healed do not display on the report.

**3.1.2.1. Wound Assessments**

* Wound assessments must have an assessment date. If there is no assessment date, the assessment data cannot be used in report calculations and displays.
* The current wound assessment is used for all report calculations and displays.
* The wound assessment with the most recent assessment date closest and prior to the report end date is considered the most recent or current wound assessment.
* The assessment to be used for report calculations and displays must have an assessment date within 9 days of the report date to be considered the “current” wound assessment.
* If there are two assessments for the same ulcer within the prior 9 days, then use the assessment with an assessment date closest and prior to the report date.

**3.1.2.2. Ulcer Locations**

Table 4. Ulcer Location Codes

|  |  |
| --- | --- |
| Ulcer Location Code | Ulcer Location Description |
| HEAD | Back of head |
| EAR | Ear: R/L |
| SCAP | Scapula: R/L |
| ELB | Elbow: R/L |
| VERTU | Vertebrae upper |
| VERTM | Vertebrae mid |
| SACR | Sacrum |
| COX | Coccyx |
| ILIAC | Iliac crest: R/L |
| TROCH | Trochanter: R/L |
| ISCHIA | Ischial tuberosity: R/L |
| THIGH | Thigh: R/L |
| KNEE | Knee: R/L |
| LLEG | Lower leg: R/L |
| ANKI | Ankle, inner: R/L |
| ANKO | Ankle, outer: R/L |
| HEEL | Heel: R/L |
| TOE | Toes: R/L |
| OTH | Other  |

**3.1.2.3. Ulcer Treatments**

Ulcer treatments are physician orders that specify how pressure ulcers are cared for or treated. The treatment orders usually change over time. The vendor must provide a mechanism to track each treatment change for each unique ulcer if the information is to display on the report; the total number of treatments is stored (treatment sum) for each wound assessment.

* Treatment changes can be determined from physician orders or wound assessment documentation.

**3.1.2.4**. **Residents With Multiple Ulcers for the Same Report Week**

If a resident has multiple ulcers (multiple assessments), each ulcer will display on a separate row on the report; ulcers on the same residents are grouped together, on consecutive rows.

**3.1.2.5. Report Sort**

Sort report by resident last name or room number for a single nursing unit and keep resident ulcers together.

##### 3.1.3. Report Example: Existing Pressure Ulcers Report

| On-Time Existing Pressure Ulcers ReportUnit: ADate: 02/10/14 |
| --- |
| Resident Name (last, first) | Room Number | Days From Admit to Ulcer Onset | Ulcer Onset Date | Ulcer Site | Ulcer Days | Initial Ulcer Stage | Most Recent Assess Ulcer Stage | Ulcer Origin | Ulcer Status | # TX Order Changes | At Risk for Delayed Healing |
| Resident A | 102 | 0 | 12/26/13 | COX | 47 | 3 | 4 | POA\* | IM | 3 | X |
| Resident B | 111 | 482 | 12/23/13 | ILIAC L | 50 | 3 | 3 | IHA | IM | 2 |  |
| Resident D | 113 | 49 | 12/30/13 | HEEL R | 43 | 4 | 4 | IHA | WO | 3 | X |
| Resident D | 113 | 0 | 11/12/13 | TROCH R | 91 | 4 | 4 | POA | WO | 1 | X |
| Resident H | 121 | 0 | 12/14/13 | ANKO R | 59 | 1 | 3 | POA\* | NC | 1 | X |

**Note:** POA\* indicates a pressure ulcer that was present on admission but has worsened in stage since admit date.

##### 3.1.4. Valid Input, Calculations, and Displays

| Report Column | Data Source/Field Name | Valid Input and Display |
| --- | --- | --- |
| Days From Admit to Ulcer Onset | Registration: admission date and Wound Assessment/ Ulcer Onset Date | * Compute days from resident admission to ulcer onset date from the resident date of admission and ulcer onset date:
* If there are multiple admission/readmission dates, use the most recent admission date prior to the report date.
* Wound onset date minus admission date = days from admit to ulcer onset. Display days in whole numbers.
 |
| Ulcer Onset Date | On-Time Wound Assessment/Ulcer Onset Date | * Display date: xx/xx/xx.
 |
| Ulcer Site | On-Time Wound Assessment | * See Table 4 in 3.1.2.2.
 |
| Ulcer Days | Compute | * Compute ulcer days: Wound assessment date closest to and prior to or on report date minus initial ulcer date = ulcer days. Display whole number.
 |
| Initial Ulcer Stage | Wound Assessment/Initial Ulcer Stage | * Stage of ulcer when it was first identified:
	+ 1, 2, 3, 4, U (Unstageable) or Suspected Deep Tissue Injury (sDTI)
 |
| Most Recent Assess Ulcer Stage | Wound Assessment/Current Ulcer Stage | * If assessment date ≤9 days from report date then display; else leave blank.
* Display stage of ulcer as recorded on the most recent wound assessment.
* Display as 1, 2, 3, 4, U (Unstageable) or Suspected Deep Tissue Injury (sDTI)
 |
| Ulcer Origin | Wound Assessment/Ulcer Origin | * The Ulcer Origin is recorded on the initial wound assessment.
* There are 2 ulcer origins:
	+ POA (present on admission)
	+ IHA (in-house acquired)
* Display the option recorded on the Wound Assessment.
 |
| Ulcer Status | Wound Assessment/Current Ulcer Status | * If assessment date ≤9 days from report date then display; else leave blank.
* Display selected item as follows:
	+ Improving = IM
	+ No change = NC
	+ Worsening = WO
* Healed (HL) is another Ulcer Status but Healed Ulcers do not display on the Existing Ulcers Report.
 |
| # TX Order Changes | Physician Orders or Wound Assessment/Treatments and Adjunctive Therapy | * If assessment date ≤9 days from report date then display; else leave blank.
* The EMR system must store a weekly treatment sum with each wound assessment.
* The weekly treatment sum is the number of times the pressure ulcer treatment orders have changed during the course of ulcer care. Treatment changes can be derived from physician orders or nurse documentation of treatments (treatments and adjunctive therapy) on the Wound Assessment.

**Derived From Physician Orders**1. See treatment orders data elements included in the “treatment” and “adjunctive therapy” sections of the Wound Assessment form.
2. Map On-Time treatment orders to physician orders that are available in the EMR system.
3. For first treatment order count 1 and store as Treatment Sum.
4. For each subsequent treatment order count 1 and add 1 to prior week Treatment Sum.
5. Display Treatment Sum as # Treatment Changes for report week.

**Derived From Wound Assessment*** From first wound assessment (initial assessment), count any treatment items selected in “treatment” or “adjunctive therapy” as 1.
* For each subsequent Wound Assessment, if any changes are made to available options in “treatment” or “adjunctive therapy,” then count as 1 and add 1 to prior Treatment Sum.
* If no changes are made to “treatments” or “adjunctive therapy,” then count as 0 and add 0 to prior Treatment Sum.
* Display Treatment Sum as # Treatment Changes for report week.
 |
| At Risk for Delayed Healing | Compute using Wound Assessment elements | * Display an X in the appropriate column if any of the risks for slow healing criteria are present. See 3.2.6 for healing risk criteria.
 |

#### 3.2. At-Risk for Delayed Healing Report

##### 3.2.1. Report Description

The Ulcers At Risk for Delayed Healing Report displays only ulcers at risk for delayed healing, as defined by the at-risk rules. See 3.2.6.

##### 3.2.2. Dependencies and Clinical Assumptions

Pressure ulcers that display on the report must have at least one criterion for delayed healing.

##### 3.2.3. Report Header

|  |  |  |
| --- | --- | --- |
|  | Data Source | Valid Input and Display |
| **Report Header** |
| Report Title | Reports | On-Time At Risk for Delayed HealingDisplay top center.Display facility name and/or logo per EMR vendor format. |
| Nursing Unit | System | Display the nursing unit name that is selected by the user during report parameter setup.Display in the top left margin. |
| Report Ending Date | Reports | Display the report ending date that is specified by the user during report parameter setup.Display in the top left margin. |
| **Footer** |
| Print Date | System  | Display month/date/year the report was generated.Use EMR vendor format for month, date, year displays. |
| Text1 |  | Display:“Source: Agency for Healthcare Research and Quality; 2014.”Display in the bottom left margin.If the vendor has standard information that displays then display in the bottom right margin. |
| Delayed Healing Criteria | Wound Assessment | Display code definitions:* O - Odor
* A - Increase in drainage amount
* W - Worsening of ulcer characteristics
 |

##### 3.2.4. Report Example: At Risk for Delayed Healing Report

|  |
| --- |
| On-Time Pressure Ulcers At Risk for Delayed Healing ReportAll UnitsDate: 02/10/14 |
| Resident Name | Room  | Ulcer Onset Date | Ulcer Location | Ulcer Days | Initial Ulcer Stage | Ulcer Origin | Current Stage | # Tx Order Changes | Surface Area | BWAT | At Risk for Delayed Healing Reasons |
|  |  |  |  |  |  |  |  |  | Initial and 3 Most Recent | Initial and 2 Most Recent |  |
|  |  |  |  |  |  |  |  | Since Onset | Initial | 1/23/14 | 1/30/14 | 2/6/14 | Initial | 1/13/14 | 1/20/14 | No Reduction in SA in 2 Weeks\* | Increase in Stage | Decline in Tissue Characteristics | Drainage | Periwound | Increase in Ulcer Pain |
| Resident A | 102 | 12/26/13 | COX | 47 | 3 | POA\* | 4 | 3 | 2.6 | 1.6 | 1.3 | 1.1 | 38 | 24 | 23 |  |  |  |  | H |  |
| Resident D | 113 | 12/30/13 | HEEL R | 43 | 4 | IHA | 4 | 1 | 4.0 | 3.2 | 2.9 | 3.2 | 44 | 25 | 24 | X |  |  |  |  | X |
| Resident D | 113 | 11/12/13 | TROCH R | 91 | 4 | POA | 4 | 3 | 2.3 | 1.3 | 1.2 | 1.3 | 43 | 27 | 25 | X |  |  |  | H | X |
| Resident H | 121 | 12/14/13 | ANKO R | 59 | 1 | POA\* | 3 | 1 | 0.8 | 1.7 | 1.7 | 1.6 | 26 | 26 | 28 | X |  |  | O |  |  |
| Resident S | 221 | 01/20/14 | SACR | 22 | 3 | POA\* | 4 | 3 | 5.2 | 6.7 | 6.2 | 5.5 | 45 | 29 | 29 |  |  |  | W | H |  |
| Resident V | 222 | 02/02/14 | HEEL R | 9 | 4 | POA | 4 | 3 | 2.0 | 2.0 | 2.3 | 2.3 | 26 | 27 | 27 |  |  | N |  |  |  |
| Resident W | 233 | 12/13/13 | COX | 60 | 3 | IHA | 3 | 2 | 1.8 | 1.2 | 1.2 | 1.2 | 23 | 20 | 20 | X |  | G |  |  |  |
| Resident Y | 311 | 01/20/14 | ISCHIA R | 22 | 3 | IHA | 4 | 2 | 2.0 | 1.7 | 1.5 | 1.5 | 29 | 25 | 23 |  | X |  | A🡩 |  | X |

Key

Decline in Tissue Characteristics: G = decline in quality of granulation tissue; N = new appearance of necrotic tissue; N🡩 = increase in necrotic tissue

Drainage: O = foul odor; A🡩 = increase in amount of drainage; W = worsening in the character of the drainage

Periwound: H = heat in periwound skin; I = induration in periwound skin

POA\* indicates that the pressure ulcer was present on admission but has gotten worse (increased in ulcer stage since admission).

##### 3.2.5. Valid Input, Calculations, and Displays

| Report Column | Data Source/Field Name | Valid Input and Display |
| --- | --- | --- |
| Ulcer Onset Date | Wound Assessment/Ulcer Onset Date | Display date: xx/xx/xx. |
| Ulcer Location | Wound Assessment/Ulcer Location | See Table 4 in 3.1.2.2. |
| Ulcer Days | Compute | * Compute Ulcer Days using Initial Onset Date and date of most recent wound assessment.
* Wound assessment date closest and prior to report date minus initial ulcer date = ulcer days. Display whole number.
 |
| Initial Ulcer Stage | Wound Assessment/Initial Ulcer Stage | * Stage of ulcer when it was first identified:
* Stage 1, 2, 3, 4, U (Unstageable) or Suspected Deep Tissue Injury (sDTI)
 |
| Ulcer Origin | Wound Assessment/Ulcer Origin | * Display one of the following options as recorded on the Wound Assessment:
	+ POA (present on admission)
	+ IHA (in-house acquired)
* Brief Definitions:
	+ POA. The ulcer was identified during the admission assessment process.
	+ IHA. The ulcer was identified after the resident was admitted.
 |
| Most Recent Assess Ulcer Stage | Wound Assessment/Current Ulcer Stage | * If assessment date ≤9 days from report date then display; else leave blank.
* Display stage of ulcer as recorded on the most recent wound assessment.
* Display as 1, 2, 3, 4, U (Unstageable) or Suspected Deep Tissue Injury (sDTI).
 |
| # TX Order Changes | Physician Orders or Wound Assessment/Treatments and Adjunctive Therapy | * If assessment date ≤9 days from report date then display; else leave blank.
* The EMR system must store a weekly treatment sum with each wound assessment.
* See valid input and display in 3.1.4.
 |
| SA Initial and 3 Most Recent | Wound Assessment | * Display initial surface area (SA) as computed for the first wound assessment and store as “initial SA.”
* Display left to right: Initial SA, SA from 3 weeks (or assessments) ago, SA from 2 weeks (or assessments) ago, SA for current report week (or current assessment).
 |
| SA Date (of SA 3 weeks ago or 3 assessments prior to current) |  | * Display the date of the wound assessment for relevant SA value as the column header.
* Display SA as computed for the wound assessment 3 assessments prior to the current.
 |
| SA Date (of SA 2 weeks ago or 2 assessments prior to current) |  | * Display the date of the wound assessment for relevant SA value as the column header.
* Display SA as computed for the wound assessment 2 assessments prior to the current.
 |
| SA Date (of current wound assessment) |  | * Display SA computed for the current wound assessment.
 |
| BWAT Initial and 2 Most Recent |  | * Display initial BWAT score from the first wound assessment and store as “initial BWAT.”
* Display left to right: initial BWAT value, prior assessment BWAT value, and current assessment BWAT value.
* If any elements of the BWAT score are missing, then BWAT score cell will be BLANK.
* If there is no BWAT score for the current or prior assessments, then the two most recent cells will be blank.
 |
| At Risk for Delayed Healing Reasons |  | See 3.2.6. |

##### 3.2.6. At Risk for Delayed Healing Rules

| Report Column | Data Source/Field Name | Valid Input and Display |
| --- | --- | --- |
| No Reduction in SA in 2 Weeks |  | If assessment date ≤9 days from report date then display; else leave blank.1. Compute ulcer size for current week using length x width; store ulcer size in cm2 or surface area (SA);
2. Compare current SA to prior SA.
3. If current SA larger than prior SA, then display an X.
 |
| Increase in Ulcer Stage |  | If there is an increase in ulcer stage from prior assessment then display an X.* Stage 1 is lowest stage.
* Stage 4 is highest stage.

Determine ulcer stage when ulcer stage is unstageable:* If Stage 3 or 4 becomes Unstageable, it is *not* considered an increase in ulcer stage.
* If Stage 2 becomes Unstageable, it is considered an increase in ulcer stage; display an X.
* If previously Unstageable ulcer becomes stageable, compare the current numeric stage with the most recently recorded numeric stage. If the current numeric stage is greater than the most recently recorded numeric stage, then display an X.
 |
| Decline in Tissue Characteristics | Wound Assessment/Granulation, Necrotic Tissue Type, Necrotic Tissue Amount,  | **Granulation Tissue*** If Granulation Tissue value on current assessment > value on prior assessment, then display G.

**Necrotic Tissue Type*** If Necrotic Tissue Type value on current assessment > value on prior assessment, then display N or
* If Necrotic Tissue Amount on current assessment > value on prior assessment, then display N.
 |
| Drainage | Wound Assessment Drainage/Exudate Type, Drainage/Exudate Amount | * If Drainage/Exudate Type = 6, then display O.
* If Drainage/Exudate Amount value increases by one or more, then display A.

**Drainage/Exudate Type*** If previous assessment = 1 and current assessment = 2, 3, 4, or 5, then display W.
* If previous assessment = 2, 3, or 4 and current assessment = 5 or 6, then display W or
* If previous assessment = 5 and current assessment = 6, then display W.
 |
| Periwound | Wound Assessment/Periwound Temperature, Periwound Induration | * If Periwound Temperature value = 2, then display an H.
* If Periwound Induration value = 2, 3, 4, or 5, then display I.
 |
| Increase in Ulcer Pain | Wound Assessment/ Pressure Ulcer Site Pain | * If pressure ulcer pain value on current assessment > value on prior assessment, then display X.
 |

##### 3.2.7. Bates-Jensen Wound Assessment Tool (BWAT)

This tool is used for the wound assessment portion of the On-Time Wound Assessment. It assigns a point value to each response in the Wound Assessment.

* Thirteen value categories (see below) are used to determine the BWAT score. For each category, assign a score using the value associated with the selected response. The sum of the 13 value category scores = BWAT score.
* There is one response for each category.
* The maximum BWAT score is 60.
* The maximum category score is 5. If there are 6 responses to any category, then category score is 5.
* For example, Drainage/Exudate Type category has 6 options; if option 5 or option 6 is selected, assign a score of 5.
* Use the ulcer stage to assign a value for ulcer depth, as described in the table below.
* Do not assign a score to a category that is missing a response; all sections must have a score before a BWAT score can be assigned to the weekly assessment.

| Assessment Categories With a Point Value That Contributes to BWAT Score | Assigning a Value to the Assessment Category |
| --- | --- |
| Ulcer Size | End user preference is to record length x width and not use the BWAT responses for ulcer size; therefore, the BWAT point value needs to be converted using the ulcer length and width.* Compute ulcer size in cm2 by multiplying ulcer length x ulcer width.
* Use the following parameters to determine the point value of 1-5 to assign to this category.

|  |  |
| --- | --- |
| **Ulcer Size** | **BWAT Category Value** |
| ≤4 cm2  | 1 |
| 4-16 cm2 | 2 |
| 16.1-36 cm2 | 3 |
| 36.1-80 cm2 | 4 |
|  >80 cm2 | 5 |

 |
| Ulcer Depth | * Display ulcer depth.
* If Ulcer Depth is not recorded on the assessment tool, then use the Current Visualized Ulcer Stage, as recorded on the Wound Assessment, to assign a score for ulcer depth category.

|  |  |
| --- | --- |
| **Current Visualized Ulcer Stage** | **BWAT Category Value** |
| If Stage 1 | 1 |
| If Stage 2  | 2 |
| If Stage 3 | 3 |
| If Stage 4 | 4 |
| If Healed  | 0 |
| If Unstageable | 4 |

 |
| Wound Edges | Use the selection value as the category value. |
| Undermining | Use the selection value as the category value. |
| Necrotic Tissue Type | Use the selection value as the category value. |
| Necrotic Tissue Amount | Use the selection value as the category value. |
| Draining/Exudate Type | If response = 5, then value = 5; if response = 6, then value = 5. |
| Draining/Exudate Amount | Use the selection value as the category value. |
| Periwound Area | Use the selection value as the category value. |
| Periwound Edema | Use the selection value as the category value. |
| Periwound Induration  | Use the selection value as the category value. |
| Granulation | Use the selection value as the category value. |
| Epithelialization | Use the selection value as the category value. |

##### 3.2.7.1. Sample Wound Assessment Responses and Point Values for Wound Edges

In the table below, if *well defined, not attached to base, rolled under, thickened* is selected on the wound assessment, then point value is 4.

**Wound Edges**

1= indistinct, diffuse, none clearly visible

2= Distinct, outline clearly visible, attached, even with wound base

3= Well defined, not attached to wound base

4= Well defined, not attached to base, rolled under, thickened

5= Well defined, fibrotic, scarred, or hyperkeratotic

**3.2.8. Blank Cells**

If a resident meets criteria to display on the report but wound assessment date >9 days of report date, the following cells must be blank:

* Most Recent Assess Ulcer Stage
* SA Unimproved: Initial and 3 Most Recent
* BWAT: Initial and 2 Most Recent
* At Risk for Delayed Healing Reasons (all columns)

If a facility uses a wound assessment other than the On-Time Wound Assessment, then the BWAT scores will always be blank and the facility has the option to remove these columns from the report display.

#### 3.3. Weekly Wound Rounds Report

##### 3.3.1. Report Description

The On-Time Wound Rounds Report displays resident-specific ulcer information, similar to the On-Time Existing Pressure Ulcers and Ulcers at Risk for Delayed Healing Reports. It includes details on the pressure ulcer as recorded on the On-Time Weekly Wound Assessment. Additional details that display include:

* Dates the resident was last seen by the primary care provider,
* Last wound clinic date,
* On-Time nutrition risk,
* Nutrition supplements (e.g., vitamin and supplement information, average weekly meal intake for the report week),
* Indicators for increase in urinary and bowel incontinence, and
* Most recent resident body temperature.

Indicators of a decline in ADLs, such as bed mobility, transfer, or toileting, captured from daily nursing assistant charting, also display. Lastly, the report provides an alert to indicate the ulcer is at risk for delayed healing.

##### 3.3.2. Dependencies and Clinical Assumptions

NA.

##### 3.3.2.1. Report Header

|  |  |  |
| --- | --- | --- |
|  | Data Source | Valid Input and Display |
| **Report Header** |
| Report Title | Reports | On-Time At Risk for Delayed HealingDisplay top center.Display facility name and/or logo per EMR vendor format. |
| Nursing Unit | System | Display the nursing unit name that is selected by the user during report parameter setup.Display in the top left margin. |
| Report Ending Date | Reports | Display the report ending date that is specified by the user during report parameter setup.Display in the top left margin. |
| **Footer** |
| Print Date | System  | Display month/date/year the report was generated.Use EMR vendor format for month, date, year displays. |
| Text |  | Display:“Source: Agency for Healthcare Research and Quality, 2014.”Display in the bottom left margin.If the vendor has standard information that displays, then display in the bottom right margin. |

##### 3.3.3. Report Example: Weekly Wound Rounds Report

|  |
| --- |
| On-Time Weekly Wound Rounds ReportUnit: ADate: 02/10/14 |
|   | Ulcer Info | Last Seen Date | Nutrition | Within 7 Days Prior to Report Date |
| Resident Name (last, first) | Ulcer Onset Date | Ulcer Site | Ulcer Days | Initial Ulcer Stage | Cur-rent Stage | Ulcer Origin | Ulcer Length (cm) x Width (cm) | Ulcer Depth (cm) | SA Change | Total TxChanges/ Last | Days From Admit to Ulcer Onset | PCP | Wound Clinic | On-Time Nutri-tion Risk | Nutrition | Weekly Avg Meal Intake | Temp | Increase Documented | Decline Documented | At Risk for Delayed Healing |
| Urine Incont  | Bowel Incont | Mobil-ity | Trans-fer | Toi-let |
| Resident A | 12/26/13 | COX | 47 | 3 | 4 | POA\* | 1.8 x 0.6 | 0.3 | - 18.7% | 301/14/14 | 0 | 01/14/14 |  | High | Prot 12/28/13 | 75% | 99.9 |  |  |  | X | X | X |
|
|
| Resident B | 12/23/13 | ILIAC L | 50 | 3 | 3 | IHA | 1.2 x 1.2 | 0.6 | - 9.5% | 201/24/14 | 482 | 01/24/14 |  | High | MVI 01/14/14 | 85% |  | X |  | X |  |  |  |
|
|
| Resident D | 12/30/13 | HEEL R | 43 | 4 | 4 | IHA | 1.8 x 1.8 | 0.8 | +10.3% | 101/17/14 | 49 | 02/02/14 | 1/25/14 |  | MVI, Prot11/12/13 | 63% |  | X |  |  |  |  | X |
|
|
| Resident D | 11/12/13 | TROCH R | 91 | 4 | 4 | POA | 1.1 x 1.2 | 0.1 | +8.3% | 312/19/13 | 0 | 02/02/14 | 1/25/14 |  | MVI, Prot11/12/13 | 63% |  | X |  |  |  |  | X |
|
|
| Resident H | 12/14/13 | ANKO R | 59 | 1 | 3 | POA\* | 1.3 x 1.2 | 0.3 | 0.0% | 101/26/14 | 0 | 01/26/14 |  | Medium |  | 80% | 100.8 |  | X | X | X | X | X |

POA\* indicates ulcer worsened in ulcer stage since admission.

##### 3.3.4. Valid Input, Calculations, and Displays

**3.3.4.1. Physician Orders**

For all physician orders, display the order with the most recent order date that is closest and prior to the report date.

* If there is no physician order, then leave the cell BLANK.
* Review all physician orders, current to oldest, to resident admission date and display date of most recent and prior to report date.
* Any information that is not available in the EMR system will show blank cells; for example, if the facility does not record “last seen by MD” date, then cell will be blank or vendor has the option to omit the column from the report. This has been described in prior On-Time topic specifications.

| Report Column | Data Source | Valid Input/Display |
| --- | --- | --- |
| Resident Name (last, first) | Wound Assessment | Resident last name, first. |
| Ulcer Onset Date | Wound Assessment | Date the ulcer was first identified. |
| Ulcer Site | Wound Assessment | Ulcer location – see Table 4 above. |
| Ulcer Days | Wound Assessment | Age of the ulcer in days as computed from ulcer onset date to report date. |
| Initial Ulcer Stage | Wound Assessment | Initial stage of the ulcer as recorded on the first assessment of the pressure ulcer. |
| Current Stage | Wound Assessment | Ulcer stage recorded on the most recent assessment that is within 9 days and prior to the report date.  |
| Ulcer Origin | Wound Assessment | Ulcer origination is recorded on the first ulcer assessment only.* Present on Admission (POA)
* In-House Acquired (IHA)

The option that is recorded on the first ulcer assessment displays. |
| Ulcer Length (cm) x width (cm) | Wound Assessment | Measurement of the ulcer length and width as recorded in centimeters. |
| Ulcer depth (cm) | Wound Assessment | Depth of the ulcer as recorded in centimeters. |
| SA Change | Compute | Surface area (SA) of the ulcer as computed using the most recent ulcer dimensions (ulcer length x width) and compared to the prior SA. The result is computed in percentage difference.* If the new SA is greater than the prior SA, then display positive sign (+) in front of the value.
* If the new SA is smaller than the prior SA, then display negative (-) in front of the value.
 |
| Total TX Changes/Date | Physician Orders | Date of the most recent ulcer treatment orders as noted on physician orders display.* The total number of treatments (treatment sum) displays above the date of the most recent treatment order.
* For example, if the physician changed the ulcer treatment on 12/1/14 and this was the second treatment change, the display would be as follows:

212/1/14 |
| Days From Admit to Ulcer Onset |  | Number of days from the most recent admission or readmission to ulcer onset displays in days as computed from admission/readmission date to ulcer onset date. |
| **Last Seen Date** |
| PCP | Nurse or Physician Notes | Date the primary care provider (M.D., D.O.) or physician assistant (PA) or nurse practitioner (NP) last saw the resident. Display date as xx/xx/xx.Check “seen by” date for M.D., D.O., PA, and NP. If multiple dates show, use the date closest and prior to the report date. |
| Wound Clinic | Vendor specific | Date the resident was last seen in the wound clinic displays as xx/xx/xx. If there is no wound clinic date, then leave cell blank. The vendor has the option to remove this column if the facility does not send residents to a wound clinic. |
| **Nutrition** |
| On-Time Nutrition Risk | On-Time Nutrition Risk Report calculations | This column is used to display whether the resident is at high or medium nutritional risk, according to the rules set forth in the On-Time Pressure Ulcer Prevention/Nutrition Risk Report specifications.* If On-Time nutrition risk status is stored, then display as high or medium.
* If resident is at high nutrition risk, then display High.
* If resident at medium nutritional risk, then display Medium.

If the vendor does not have the On-Time Nutrition Risk reports programmed, then use Nutrition Risk rules to determine high or medium nutrition risk or do not display this column on the report. |
| Nutrition | Physician Orders or vendor specific | Physician orders for protein supplements, nutritional supplements, or multivitamins display with the order date.The facility will determine which physician orders to use for the report displays; it will depend on what the EMR vendor has available for display.  |
| Weekly Avg Meal Intake | On-Time Nutrition Risk Reports or vendor calculations | Display average meal intake for the report week.Use Nutrition Risk report for rules to compute average meal intake.If the vendor does not have the On-Time Nutrition Risk reports programmed, then use Nutrition Risk rules to determine weekly average meal intake or use existing vendor computation. |
| Temp  | Vendor specific | Display the most recent temperature recorded in the system for the resident.* Use the temperature that is within 7 days of the report date.
* If there are multiple temperatures within the parameter, then use the highest temperature for the report display.
* If there is no temperature in this time window, then leave cell blank.
 |
| **Increase documented within 7 days of report date for the following:**  | Use Calculations defined for On-Time Pressure Ulcer Prevention/Risk Change Report. |
| Urine Incontinence | CNA documentation  | * If there is an increase in urinary incontinence from the prior week, then display an X.
* If bladder completeness is <75% for the current and/or prior week, then display a dash for the resident.
* To calculate an increase in urinary incontinence by shift (yes/no):
	+ For the current week, count the number of shifts a resident had at least one episode of urinary incontinence documented by the CNA.
	+ For the prior week, count the number of shifts a resident had at least one episode of urinary incontinence documented by the CNA.
	+ If the number of shifts with urinary incontinence increased by three or more (Current – Previous ≥3), then display an X for the resident.
* To calculate an increase in urinary incontinence by the number of times per shift:
	+ For the current week, sum the number of urinary incontinence episodes documented by the CNA.
	+ For the prior week, sum the number of urinary incontinence episodes documented by the CNA.
	+ If the number of urinary incontinence episodes increases by 12 or more (Current – Previous ≥12), then display an X for the resident.
 |
| Bowel Incontinence | CNA documentation | * If there is an increase in bowel incontinence from the prior week, then display an X.
* If bowel completeness is <75% for the current and/or prior week, then display a dash for the resident.
* To calculate an increase in bowel incontinence by shift (yes/no):
	+ For the current week, count the number of shifts a resident had at least one episode of bowel incontinence documented by the CNA.
	+ For the prior week, count the number of shifts a resident had at least one episode of bowel incontinence documented by the CNA.
	+ If the number of shifts with bowel incontinence increased by one or more (Current – Previous ≥1), then display an X for the resident.
* To calculate an increase in bowel incontinence by the number of times per shift:
	+ For the current week, sum the number of bowel incontinence episodes documented by the CNA.
	+ For the prior week, sum the number of bowel incontinence episodes documented by the CNA.
	+ If the number of bowel incontinence episodes increases by 2 or more (Current – Previous ≥2), then display an X for the resident.
	+ If there is an increase in bowel incontinence from the prior week, then display an X.
 |
| **Decline documented within 7 days of report date for the following:** | * Use Calculations defined for On-Time Pressure Ulcer Prevention/Risk Change Report.
* If vendor is currently using MDS rules to capture decline in bed mobility, transfer, or toileting, then use vendor rules.
 |
| Bed Mobility | CNA documentation | * Use Calculations defined for the On-Time Risk Change Report.
* If ADL completeness is <75% for the current and/or prior week, then display a dash for the resident.
* CNA documentation options/abbreviations (use vendor codes if different from the list below):
	+ Use self-performance responses.
	+ Independent (IN)
	+ Supervision (SU)
	+ Limited Assistance (LA)
	+ Extensive Assistance (EA)
	+ Total Dependence (Total)
	+ Activity Did Not Occur (NO)
* Determine the PRIOR WEEKLY value by taking the highest (or worst) value recorded for that week.
* Do no use Activity Did Not Occur (NO) to calculate weekly value.
* If values are only NO, then a value cannot be determined and ADL Decline: Bed Mobility is BLANK.
* Determine CURRENT WEEKLY value.
* Repeat as above to determine value for the CURRENT WEEK.
* Compare PRIOR WEEK VALUE to CURRENT WEEK VALUE to determine ADL Decline: Bed Mobility as TRUE or FALSE.
* If the current week value is higher than the prior week value, then ADL Decline: Bed Mobility = TRUE.
* For example: IF PRIOR WEEK = IN and CURRENT WEEK = SU or LA or EA or Total, then ADL Decline: Bed Mobility is TRUE and an X displays.
* IF PRIOR WEEK = EA and CURRENT WEEK = IN or SU or LA, then ADL Decline: Bed Mobility is FALSE and the cell is BLANK.
* IF PRIOR WEEK or CURRENT WEEK = NO, then do not compare values and leave the cell BLANK.
* Note: If EMR vendor has existing rules to determine ADL decline in mobility, then use vendor rules.
 |
| Transfer |  | As above for Bed Mobility |
| Toileting |  | As above for Bed Mobility |
| At Risk for Delayed Healing |  | See 3.2.6. |

#### 3.4. Weekly Pressure Ulcer Treatment Summary Report

##### 3.4.1. Report Description

The On-Time Weekly Pressure Ulcer Treatment Summary Report is a resident-level report that displays a total of six ulcer assessments for each unique ulcer for a single resident. The pressure ulcer assessment date displays at the top of each column and the treatment information recorded for that assessment displays in the column. This report provides an at-a-glance view of treatment strategies over time.

##### 3.4.2. Dependencies and Clinical Assumptions

* Display all wound assessment selections in the appropriate cell for the date the assessment was completed.
* If the On-Time Wound Assessment is not being used to record weekly wound assessments, this report cannot be produced as designed.

##### 3.4.3. Report Header

|  |  |  |
| --- | --- | --- |
|  | Date Source | Valid Input and Display |
| **Report Header** |
| Report Title | Reports | On-Time Weekly Pressure Ulcer Treatment SummaryDisplay top center.Display facility name and/or logo per EMR vendor format. |
| Nursing Unit | System | Display the nursing unit name that is selected by the user during report parameter setup.Display in the top left margin. |
| Report Ending Date | Reports | Display the report ending date that is specified by the user during report parameter setup.Display in the top left margin. |
| Ulcer Location | Wound Assessment/Ulcer Location | Display selected ulcer location; display text. |
| **Footer** |
| Print Date | System  | Display month/date/year the report was generated.Use EMR vendor format for month, date, year displays. |
| Text |  | Display:“Source: Agency for Healthcare Research and Quality, 2014.”Display in the bottom left margin.If the vendor has standard information that displays, then display in the bottom right margin. |

##### 3.4.3. Report Example: Weekly Pressure Ulcer Treatment Summary Report

| Report Date: 02/10/14Resident Name: Resident AUlcer Location: Coccyx |
| --- |
| ASSESSMENT | Assessment Date |
|  | 01/02/14 | 01/09/14 | 01/16/14 | 01/23/14 | 01/30/14 | 02/06/14 |
| Length: clock method cm | 1.9 | 2.1 | 2.0 | 2.0 | 1.9 | 1.8 |
| Width cm | 0.8 | 1.0 | 0.8 | 0.8 | 0.7 | 0.6 |
| Depth cm | 0.2 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 |
| Braden Score | 13 | 14 | - | - | 16 |  |
| Healed |  |  |  |  |  |  |
| Improving |  |  | X |  | X | X |
| No Change |  |  |  | X |  |  |
| Worsening |  | X |  |  |  |  |
| Signs of Delayed Healing | X | X |  |  |  |  |
| Current Stage | 3 | 4 | 4 | 4 | 4 | 4 |
| TREATMENTS |
| Wound Cleanser | Saline | Saline | Saline | Saline | Saline | Saline |
| Debridement | Autolytic | AutolyticConservative sharp |  |  |  |  |
| Topical and Protective Agents (including for periwound skin) | Liquid skin protectant | Liquid skin protectant | Liquid skin protectant | Liquid skin protectant | Liquid skin protectant | Liquid skin protectant |
| Dressings | HydrogelHydrocolloid | HydrogelHydrocolloid | AlginateGauze | AlginateGauze | AlginateGauze | AlginateGauze |
| Additional Treatments | Ultrasound | Ultrasound |  |  |  |  |
| SURFACES |
| Support Surfaces for Bed | Low-air-loss | Low-air-loss | Low-air-loss | Low-air-loss | Low-air-loss | Low-air-loss |
| Seating Support Surfaces | Foam cushion | Air cushion | Air cushion | Air cushion | Air cushion | Air cushion |
| Additional Off-Loading Strategies  | T&P scheduleElevate heels | T&P scheduleElevate heels | T&P scheduleElevate heels | T&P scheduleElevate heels | T&P scheduleElevate heels | T&P scheduleElevate heels |
| NUTRITIONAL INTERVENTIONS  |
| Vitamin or mineral supplement | X | X | X | X | X | X |
| Nutritional supplement provided with meals |  |  |  |  |  |  |
| Nutritional supplement provided between meals or with medication pass |  | X | X | X | X | X |
| Monitor protein, calorie, and/or fluid intake | X | X | X | X | X | X |
| Other interventions to maintain/improve nutrition and hydration status |  |  |  |  |  |  |
| Consultations | Dietitian |  Rehab |   |   | RehabDietician |  |
| Labs |
| Prealbumin (18-45 mg/dL) | 22 |   |   |   | 24 | 30 |
| Albumin (3.5-5.5 g/dL) | 3.4 |   |   |   | 3.5 | 3.8 |
| Sodium (136-145 mEq/L) |   |   |   |   | 147\* | 136 |
| Creatinine (0.7-1.3 mg/dL) |   |   |   |   | 1.9\* | 1.8\* |
| BUN (8-20 mg/dL) | 22\* |   |   | 15.4 | 13.5 | 12.6 |
| Transferrin (212-360 mg/dL) |   |   |   |   | 282 | 312 |
| Hgb (M: 14-17; F: 12-16 g/dL) | 15.2 |   |   |   |   | 16 |
| Hct (M:41-51%; F: 36-47%) | 38% |   |   |   |   | 39% |

\* Out-of-range value.

**Note:** Normal lab value ranges noted above represent those reported in the Merck Manual (2013), available at <http://www.merckmanuals.com/professional/appendixes/normal_laboratory_values/normal_laboratory_values.html>. This information is provided as a guide only and nursing home staff should refer to their own laboratory’s normal range references and confer with the physician and other interdisciplinary team members when determining the individual resident’s desired lab values.

##### 3.4.4. Valid Input, Calculations, and Displays

**3.4.4.1. Lab Results**

The format for display of laboratory test results is a recommendation only; the vendor may use the format that is already programmed in their EMR. If the EMR vendor cannot display laboratory results, these rows will not display on the report.

**3.4.4.2. Out-of-Range Values**

Display an indicator when laboratory results fall outside the normal range.

**3.4.4.3. Format for Out-of-Range Values**

Use lab values and out-of-range parameters already being used by the vendor.

| **Report Column** | **Data Source** | **Valid Input and Display** |
| --- | --- | --- |
| Date | Wound Assessment/Date of Assessment | Display the date of the wound assessment.  |
| Length: clock method cm | Wound Assessment/Ulcer Length | Display entered values or selection. |
| Width cm | Wound Assessment/Ulcer Width | Display entered values or selection. |
| Depth cm | Wound Assessment/Ulcer Depth | Display entered values or selection. |
| Braden Score | Wound Assessment/Braden Score | Display entered values or selection.If there is a Braden Score stored in the system and the Braden Score date falls within 7 days of the wound assessment date, then display Braden Score value. |
| Healed | Wound Assessment/Ulcer Status | If ulcer status = healed then display an X; else leave blank. |
| Improving | Wound Assessment/Ulcer Status | If ulcer status = improving then display an X; else leave blank. |
| No Change | Wound Assessment/Ulcer Status | If ulcer status = no change then display an X; else leave blank. |
| Worsening | Wound Assessment/Ulcer Status | If ulcer status = worsening then display an X; else leave blank. |
| Signs of Delayed Healing | Compute | Use rules in 3.2.6 and display an X if any rule is true. |
| Current Stage | Wound Assessment/Current Stage | Display entered values or selection. |
| Wound Cleanser | Wound Assessment/Treatments | Display entered values or selections. |
| Debridement | Wound Assessment/Treatments | Display entered values or selections. |
| Topical and Protective Agents (including for periwound skin) | Wound Assessment/Treatments | Display entered values or selections. |
| Dressings | Wound Assessment/Treatments | Display entered values or selections. |
| Additional Treatments | Wound Assessment/Treatments | Display entered values or selections. |
| Support Surfaces for Bed: | Wound Assessment/Surfaces | Display entered values or selections. |
| Seating Support Surfaces | Wound Assessment/Surfaces | Display entered values or selections. |
| Additional Off-Loading Strategies  | Wound Assessment/Surfaces | Display entered values or selections. |
| Vitamin or mineral supplement | Wound Assessment/Nutritional Interventions | If selected then display an X. |
| Nutritional supplement provided with meals | Wound Assessment/Nutritional Interventions | If selected then display an X. |
| Nutritional supplement provided between meals or with medication pass | Wound Assessment/Nutritional Interventions | If selected then display an X. |
| Monitor protein, calorie, and/or fluid intake | Wound Assessment/Nutritional Interventions | If selected then display an X. |
| Other interventions to maintain/improve nutrition and hydration status | Wound Assessment/Nutritional Interventions | If selected then display an X. |
| Prealbumin (18-45 mg/dL) | Results | If lab value available then display value; display asterisk if value out of normal range. Use lab values and out-of-range parameters already being used by the vendor.If the vendor does not store lab values, then do not display lab values on the report; remove rows from report. |
| Albumin (3.5-5.5 g/dL) | Results | As above. |
| Sodium (136-145 mEq/L) | Results | As above. |
| Creatinine (0.7-1.3 mg/dL) | Results | As above. |
| BUN (8-20 mg/dL) | Results | As above. |
| Transferrin (212-360 mg/dL) | Results | As above. |
| Hgb (M: 14-17; F: 12-16 g/dL) | Results | As above. |
| Hct (M:41-51%; F: 36-47%) | Results | As above. |

#### 3.5. Pressure Ulcer Counts by Month

##### 3.5.1. Report Description

This report compiles pressure ulcer data by using data captured by nurses on the weekly Pressure Ulcer Assessments. Clinicians may use this report to monitor and analyze pressure ulcer patterns and rates to formulate improvement strategies. The report displays information for 1 calendar month.

##### 3.5.2. Dependencies and Clinical Assumptions

**3.5.4.1. Timeframe**

The On-Time Pressure Ulcer Counts by Month Report displays ulcer counts for 1 calendar month.

The report generates ulcer information for 1 calendar month. If an end user attempts to generate a report for the current month and it is not the last day of the current month, then the system should alert the user that the most recent report available is the prior and complete month.

##### 3.5.3 Header and Footer

|  |  |  |
| --- | --- | --- |
| Report Header | Date Source | Valid Input and Display |
| Report Title | Reports | On-Time Pressure Ulcer Counts by MonthDisplay top center.Display facility name and/or logo per EMR vendor format. |
| Report Month and Year | Reports/report parameters | Display the month and the year selected by the end user.Use EMR vendor format for month and year displays. |
| Footer | System  | Display month/date/year the report was generated.Use EMR vendor format for month, date, year displays. |

##### 3.5.4. Report Examples

Table 5. On-Time Pressure Ulcer Counts by Month Report – Facility Level



Table 6. On-Time Pressure Ulcer Counts by Month Report – Facility Level by Unit



Table 7. On-Time Pressure Ulcer Counts by Month Report – Unit Level



Table 8. Pressure Ulcer Measures

|  |  |
| --- | --- |
| Pressure Ulcer Measures | Calculations |
| Numerator | Denominator |
| Pressure Ulcer Prevalence | Number of residents with at least one pressure ulcer | Number of all current residents |
| Residents With New Pressure Ulcers | Number of current residents with a pressure ulcer that developed during the month (this includes residents who had one or more pressure ulcers at the beginning of the month and developed another one, as well as residents who did not have a pressure ulcer and developed one. | Number of all current residents |
| Pressure Ulcers That Have Increased in Stage (All) | Current pressure ulcers that have worsened in stage | All current pressure ulcers |
| Pressure Ulcers That Have Increased in Stage (IHA) | Current IHA pressure ulcers that have worsened in stage | All current IHA pressure ulcers |
| Pressure Ulcers That Have Increased in Stage (POA) | Current POA pressure ulcers that have worsened in stage | All current POA pressure ulcers |
| Resident Counts |
| Number of Residents With More Than One Pressure Ulcer (All) | Report the number of current residents with more than one pressure ulcer. |
| Number of Residents With More Than One Pressure Ulcer (IHA) | Report the number of current residents with more than one IHA pressure ulcer. |
| Number of Residents With More Than One Pressure Ulcer (POA) | Report the number of current residents with more than one POA pressure ulcer. |

##### 3.5.5. Valid Input, Calculations, and Displays

| Report Column | Data Source/Field Name | Valid Input and Display |
| --- | --- | --- |
| All Pressure Ulcers |  | **All Pressure Ulcers*** *Unit* total number of pressure ulcers by ulcer stage.
* Include all Pressure Ulcer assessments for the report “month” for each nursing unit.
* Each ulcer has a unique ulcer ID: pressure ulcer ID consisting of resident ID, ulcer onset date, and ulcer location = unique pressure ulcer ID.
1. For each unique ulcer for each resident, sort by assessment date.
2. For each unique ulcer, use the wound assessment with a wound assessment date closest and prior to the last day of the month.
3. Determine Ulcer Stage.
4. If first assessment and only assessment, use Ulcer Stage.
5. If assessment is not the first wound assessment, use response for Current Visualized Stage as Ulcer Stage
 |

| Report Column | Data Source/Field Name | Valid Input and Display |
| --- | --- | --- |
| **Stages 1-U** |
| Current  | Wound Assessment/ Followup Ulcer Status | **Determine Current Ulcers:**Follow Steps 1-5 above for **All Pressure Ulcers**.* If Followup Ulcer Status response is ANY except “healed,” then treat ulcer as Current Ulcer and use response in Current Visualized Stage as the Ulcer Stage.
* For all Current Ulcers, sort by Ulcer Stage and for each stage count the number of unique pressure ulcer IDs during the month.
* Display the sum of each Ulcer Stage in the appropriate Ulcer Stage column and on the Current Ulcer row.
 |
| New | Wound Assessment/Ulcer Onset Date | **Determine New Ulcers:**Follow Steps 1-5 above for **All Pressure Ulcers**.* If Ulcer Onset Date is during the report calendar month, then treat ulcer as New Ulcer and use response in Current Visualized Stage as the Ulcer Stage.
* For all New Ulcers, sort by Ulcer Stage and for each stage count the number of unique pressure ulcer IDs during the month.
* Display the sum of each Ulcer Stage in the appropriate Ulcer Stage column and on the New Ulcer row.

New Ulcers are current ulcers and therefore *do not* contribute to the total number of ulcers for the report calendar month |
| Worsening | Compute at risk rules | * If ulcer flagged as at risk for slow healing, then treat ulcer as Worsening Ulcer and use the response in Current Visualized Stage as the Ulcer Stage.
* For all Worsening Ulcers, sort by Ulcer Stage and for each stage count the number of unique pressure ulcer IDs during the month.
* Display the sum of each Ulcer Stage in the appropriate Ulcer Stage column and on the Worsening Ulcer row.

Worsening Ulcers are current ulcers and therefore *do not* contribute to the total number of ulcers for the report calendar month |
| Totals: Current | Compute | For all Current Ulcers count the number of unique pressure ulcer IDs during the month and display the sum in the Total column and on the Current Ulcer row.  |
| Totals: New | Compute | For all New Ulcers count the number of unique pressure ulcer IDs during the month and display the sum in the Total column and on the New Ulcer row.  |
| Totals: Worsening | Compute | For all Worsening Ulcers count the number of unique pressure ulcer IDs during the month and display the sum in the Total column and on the Worsening Ulcer row.  |
| # Ulcers Present on Admission (POA) | Wound Assessment/Ulcer Origin | **Determine Ulcers Present on Admission:**Follow Steps 1-5 above for **All Pressure Ulcers**.1. Determine Ulcer Origin = POA.
2. If Ulcer Origin response = POA then treat Ulcer as POA. Use the most recent Current Visualized Stage as the Ulcer Stage.

Ulcers Present on Admission (POA) totals do contribute to total ulcer count for the calendar month. |
| Current | Wound Assessment/Followup Ulcer Status | See **Determine Ulcers Present On Admission** Steps 1-2 above; then repeat all steps described above for Current Ulcers. |
| New | Wound Assessment/ Ulcer Onset Date | See **Determine Ulcers Present On Admission** Steps 1-2 above and repeat all steps described above for New Ulcers. |
| Worsening | Compute at risk rules | See **Determine Ulcers Present On Admission** Steps 1-2 above and repeat all steps described above for Worsening Ulcers. |
| Totals: Current (POA) | Compute | Repeat process for totals as above for Current (All). |
| Totals: New (POA) | Compute | Repeat process for totals as above for New (All). |
| Totals: Worsening (POA) | Compute | Repeat process for totals as above for Worsening (All). |
| # Ulcers In-House Acquired (IHA) | Wound Assessment/Ulcer Origin | **Determine Ulcers In-House Acquired:**Follow Steps 1-4 above for **All Pressure Ulcers**.1. Determine Ulcer Origin = IHA.
2. If Ulcer Origin response = IHA then treat Ulcer as IHA. Use the most recent Current Visualized Stage as the Ulcer Stage.

Ulcers In-House Acquired (IHA) totals do contribute to total ulcer count for the calendar month. |
| Current | Wound Assessment/ Followup Ulcer Status | See **Determine Ulcers In-House Acquired** Steps 1-2 above and repeat all steps described above for Current Ulcers. |
| New | Wound Assessment/Ulcer Onset Date | See **Determine Ulcers In-House Acquired** Steps 1-2 above and repeat all steps described above for New Ulcers. |
| Worsening | Compute at-risk rules | See **Determine Ulcers In-House Acquired** Steps 1-2 above and repeat all steps described above for Worsening Ulcers. |
| Totals: Current (IHA) | Compute | Repeat process for totals as above for Current (All). |
| Totals: New (IHA) | Compute | Repeat process for totals as above for New (All). |
| Totals: Worsening (IHA) | Compute | Repeat process for totals as above for Worsening (All). |

1. Nurses who coordinate data collected for completion of the Minimum Data Set, required by the Centers for Medicare & Medicaid Services. [↑](#footnote-ref-1)