Many organizations and individuals contributed to the development of this handbook and the National Nursing Home Improvement Collaborative. We would like to recognize the following organizations and individuals for providing direction, funding, and expertise.

The Centers for Medicare & Medicaid Services (CMS) is sponsoring the Collaborative.

The Institute for Healthcare Improvement (IHI) developed the Breakthrough Series Collaborative learning methodology including the Model for Improvement with colleagues from Associates in Process Improvement.

The Collaborative Experience Project: Surgical Infection Prevention, a national Collaborative involving hospitals and quality improvement organization (QIO) staff from across the country, provided the model for this Collaborative. Slight improvements/revisions have been made to the model based on lessons learned from participating teams.

Quality Partners of Rhode Island, the quality improvement organization support center for the Nursing Home Quality Initiative, facilitated the development of many of the materials upon which the Collaborative framework is based.

A panel of experts worked with Qualis Health to develop the framework for this Collaborative. Much gratitude to those who provided clinical expertise.

Nancy Bergstrom, PhD, RN, FAAN  
Theodore J. & Mary E. Trumble Professor of Aging Research  
Associate Director for Research, Center on Aging  
University of Texas Health Science Center, Houston

Joanne Lynn, MD, MS, MA  
Director  
Center to Improve Care of the Dying  
The Washington Home Center for Palliative Care Studies

David R. Gifford, MD, MPH  
Quality Partners of Rhode Island  
Assistant Professor of Medicine and Community Health  
Brown University School of Medicine  
Assistant Professor of Medicine, Rhode Island Hospital

Jim Roberts, MD  
Consultant, Quality Improvement
Rita A. Frantz, PhD, RN, FAAN
Professor & Chair
Biobehavioral Nursing
College of Nursing
The University of Iowa

Barbara Braden, PhD, RN, FAAN
Dean, Graduate School & University College
Creighton University in Omaha

Heather Young, PhD, RN, FAAN
Director of the de Tornyay Center on Healthy Aging
Research Associate Professor
Biobehavioral Nursing and Health Systems
University of Washington

Mary Tellis-Nayak, RN, MSN, MPH
President/CEO
American College of Health Care Administrators

Mona Baharestani, PhD, NP, CWOCN, CWS
Director of Wound Healing
Division of Plastic & Reconstructive Surgery
Long Island Jewish Medical Center

Anne-Sofie Fia Grekowicz, BSN, RN, CWCN, COCN
Wound Care Specialist
Swedish Medical Center, Providence Campus
Seattle, WA

Michele Herlihy, RN, BSN
Deer’s Head Center
Salisbury, MD

Tina Corbin, GNA
Deer’s Head Center
Salisbury, MD
# Contents

About This Handbook ................................................................. 1

Introduction ................................................................................. 2

Overview ......................................................................................... 2

About the National Nursing Home Improvement Collaborative .......... 2

Schedule ........................................................................................ 3

Pre-work Activities ........................................................................ 4

Pre-work Checklist ......................................................................... 4

Reading the Collaborative Framework ........................................... 5

Forming a Team ............................................................................. 5

Registering and Arranging for Travel, Lodging .............................. 7

Scheduling a Pre-work Call .......................................................... 8

Obtaining Internet Access ............................................................ 8

Using NNHIC Registry Software .................................................. 9

Completing the Worksheet ............................................................ 9

Developing an Aim Statement ....................................................... 10

Defining a Population of Focus ..................................................... 11

Defining Measures ....................................................................... 11

Senior Leader Reports ............................................................... 12

Preparing a Storyboard ............................................................... 13

Pre-work Activities Worksheet .................................................... 14

Collaborative Framework ........................................................... 17

Charter .......................................................................................... 17

Problem Statement ....................................................................... 17

Mission ........................................................................................ 18

Goals ............................................................................................ 19

Methods ....................................................................................... 20

Expectations ................................................................................. 20
About This Handbook

This handbook contains essential information about the National Nursing Home Improvement Collaborative (NNHIC) for participating nursing homes. Its purpose is to provide participants with background and reference information on the NNHIC and to help teams prepare for a successful start to this exciting year of quality improvement.

The Introduction sets the stage by giving some background information on Collaboratives as well as a schedule of major events and periods.

The Framework contains the Collaborative charter, which provides some background on pressure ulcer prevention and treatment, defines the overall mission, goals, and methods of the Collaborative, and outlines expectations for Collaborative participants. The framework also contains the Change Package and Measurement Strategy.

The Change Package contains a variety of strategies for changing processes of care surrounding pressure ulcer prevention and treatment. You will refer to it throughout the Collaborative.

The Measurement Strategy section provides you with data definitions for the required measures and provides teams with optional measures, and it describes the data that your team will collect to monitor your progress during the Collaborative.

The section on Pre-work activities will walk your team step-by-step through preparing for the first learning session.

A Glossary of terms and concepts and a list of Collaborative Leadership will serve as a reference throughout the Collaborative.

A Collaborative is a systematic approach to quality improvement.
This section contains background information on Collaboratives and the National Nursing Home Improvement Collaborative (NNHIC), including a schedule of activities.

Overview

A Collaborative is a systematic approach to healthcare quality improvement in which organizations and providers test and measure practice innovations, then share their experiences in an effort to accelerate learning and widespread implementation of best practices. In 1995, the Institute for Healthcare Improvement held the first Breakthrough Series Collaborative. Since then, more than 1000 teams from over 400 international healthcare organizations have participated in Collaboratives.

The National Nursing Home Improvement Collaborative

The National Nursing Home Improvement Collaborative will involve nursing homes from across the country working together for 13 months to individually test system changes aimed at preventing and treating pressure ulcers, and to collectively share learning. The four main components of the NNHIC are pre-work activities, learning sessions, action periods, and the outcomes congress.

Pre-work is the period between receipt of this handbook and Learning Session 1. During this time, the nursing home has several important tasks to accomplish in order to prepare for the first learning session. The pre-work section of this handbook details these tasks, provides a checklist for pre-work activities, and provides a worksheet for documentation.

Learning sessions are the major interactive events of the Collaborative. Through plenary sessions, small group discussions, and team meetings, attendees have the opportunity to

- learn from faculty (see Collaborative Leadership section) and colleagues,
- receive individual coaching,
- gather knowledge on the subject matter and on process improvement,
- share experiences and collaborate on improvement plans, and
- problem-solve barriers to improving care.

Action periods are the times between learning sessions. During action periods, nursing home teams work within their organizations to test and implement changes aimed at preventing and treating pressure ulcers. Teams share the results of their improvement efforts in monthly senior leader reports and also participate in shared learning through an electronic mailing list, conference calls, and websites. (We strongly urge participating teams who do not currently have access to e-mail to obtain reliable and secure internet and e-mail. Participation in action periods is not limited to those who
attend the learning sessions; we encourage and expect the participation of other team members and supporters in the nursing home.

**Outcomes Congress.** The Collaborative will share its findings and achievements at an outcomes congress that will highlight the accomplishments of the teams and present effective models of pressure ulcer prevention and treatment in nursing homes.

**Schedule**

The sequence of events for the NNHIC is as follows

- Pre-work
- Action Period 1
- Learning Session 1
- Action Period 2
- Learning Session 2
- Action Period 3
- Learning Session 3
- Outcomes Congress

Each team is expected to participate in monthly conference calls with the Collaborative leadership. The first conference call is scheduled for ____, three weeks after the first learning session. The Calendar of Activities and Events provides the dates of all the conference calls for the duration of the Collaborative. To connect to the teleconferences, call ________.
Pre-work Activities

This section includes a checklist of pre-work activities, information about how to complete each pre-work activity, and a worksheet for documentation.

Checklist for completing pre-work activities
To prepare for Learning Session 1, participating nursing home teams should complete the tasks listed below:

1. Read the Collaborative framework.
2. Form a team.
3. Register for Learning Session 1 and arrange for travel and lodging.
4. If not previously arranged, each nursing home team must schedule a pre-work call.
5. Obtain Internet access for accessing the Collaborative e-mail list.
6. Obtain the NNHIC registry software to track patient-level data within your nursing home. *This is not a requirement as paper tools and logs may be used.*
7. Complete the pre-work activities worksheet (see page 14).
8. Develop an aim statement.
9. Define (or identify) a population of focus.
10. Define optional measures.
12. Prepare a storyboard for Learning Session 1.

The following pages provide more detail about each task.
1. Reading the Collaborative Framework

Please read the Collaborative framework, which is the next section of this handbook. The framework defines the Collaborative mission, summarizes the evidence that will direct your work, outlines methods that your team will use to achieve the mission, and lists what teams can expect from the Collaborative leadership as well as what the leadership expects of teams. The framework also contains the change package and the measurement strategy. The change package contains a variety of strategies for changing processes of care surrounding pressure ulcer prevention and treatment. The measurement strategy provides you with data definitions for the required measures and provides teams with optional measures. It also describes the data that your team will collect to monitor your progress during the Collaborative.

2. Forming a Team

Each nursing home needs to form a Collaborative team to test and implement system changes related to the prevention and treatment of pressure ulcers. It is recommended that each team have at least four team members. These four, along with other members, comprise the home team.

Selecting team leaders

When forming your home team, you will need to fill four leadership roles: senior leader, system leader, clinical champion, and day-to-day leader. Individuals in these roles represent the team at the learning sessions and the outcomes congress, and they share their learning with other members of the team. Team members will report progress to the senior leader, who is encouraged to attend all learning sessions and the outcomes congress but need only attend, at a minimum, the second learning session and the outcomes congress. Ideal team members are described below.

Senior leader

The ideal senior leader

- has ultimate authority to allocate the time and resources to achieve the team’s aim,
- has ultimate authority over all areas affected by the change, and
- will champion the spread of successful changes throughout the organization.

Examples of senior leaders include a nursing home administrator or director of nursing. The senior leader is encouraged to attend all learning sessions and the outcomes congress and is required, at a minimum, to attend Learning Session 2 and the Outcomes Congress.

System leader

The ideal system leader

- has direct authority to allocate the time and resources to achieve the team’s aim,
- has direct authority over the particular systems affected by the change, and
• will champion the spread of successful changes throughout the department or service area.

An example of a system leader would be the director of nursing or a charge nurse. The system leader attends all learning sessions and the outcomes congress.

Clinical champion

The ideal clinical champion

• is a respected clinical staff person with interest and expertise in pressure ulcer prevention and treatment,
• understands current processes of care,
• has a good working relationship with colleagues and the day-to-day leader, and
• wants to drive improvements in the system.

An example of a clinical champion would be a physician, geriatric nurse practitioner, or clinical nurse specialist. It is essential to have a clinical champion on the team. The clinical champion attends all learning sessions and the outcomes congress.

Day-to-day leader

The ideal day-to-day leader

• drives the project, ensuring that cycles of change are tested, implemented, and documented,
• coordinates communication between the team and the Collaborative,
• oversees data collection, and
• works effectively with the clinical champion.

The day-to-day leader should understand how changes will affect systems and have the time to keep the project moving forward. The day-to-day leader should have the skills necessary to write summary reports of quality improvement progress. A quality improvement, charge, or highly motivated staff nurse might serve as day-to-day leader. The day-to-day leader attends all learning sessions and the outcomes congress.

Other team members

In addition to the home team leaders, the Collaborative team should also include members from nursing home departments potentially affected by system changes related to pressure ulcer prevention and treatment. These other members should be included, but will not need to travel to Dallas for the learning sessions. These members should include people from departments and work areas that will be affected by the changes, to ensure that the team understands the system it is trying to redesign and to promote buy-in for the changes.

These members learn about the Collaborative from the leadership team and participate in implementation at the nursing home. Potential team members include

• paraprofessional nursing and rehab staff (nursing assistants),
• staff development personnel,
• dieticians and dietary staff,
• professional rehabilitation staff (OT and PT),
• health information managers,
• activities and social services staff,
• central supply staff, and
• maintenance and environmental services.

Checklist for selecting team members
An effective team has members who work well together and who have a combination of skills, styles, and competencies. An effective team has members who
  are leaders,
  are team players,
  have specific skills and technical proficiencies relevant to the prevention and treatment of pressure ulcers,
  possess excellent listening skills,
  communicate well verbally,
  are problem-solvers,
  are motivated to improve current systems and processes,
  believe it is possible to improve pressure ulcers, and
  are creative, innovative, and enthusiastic.

3. Registering and arranging for travel, lodging
Team leaders represent the team at the learning sessions and the outcomes congress, and they share their learning with other members of the nursing home team. The senior leader, at a minimum, should attend the second learning session and the outcomes congress. The system leader, the clinical champion, and the day-to-day leader should attend all learning sessions and the outcomes congress.

Registering
Arranging for lodging

4. Scheduling a pre-work call

Each team must schedule a pre-work conference call with before the first learning session. Calls are used to assess the teams’ readiness to participate in the Collaborative.

The following schedule provides the various times available for pre-work calls. All phone call times are listed as eastern time.

**Pre-Work Call Schedule**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Obtaining Internet access

We strongly urge participants who do not have access to e-mail to subscribe to an Internet service provider for the duration of the Collaborative. Obtaining Internet access is necessary for teams to
have access to the electronic mailing list, or e-mail list, for the Collaborative. The Collaborative leadership and nursing home team members will use the list to distribute information and tools, ask questions and receive replies, and conduct ongoing discussions of changes tested, barriers encountered, and lessons learned. At least one member from each team must join the e-mail list and take responsibility for distributing information to the rest of the team; however, we encourage all team members to join the list. Information on how to join the e-mail list will be available at the first learning session.

6. Using NNHIC Registry Software

A NNHIC registry software will be provided to track patient-level data within your nursing home. A registry is a tracking tool that assists in efficiently collecting data so this data may be summarized for a population of focus. Registries may be simply a log of residents or a database consisting of data entry screens, queries, and reports. When improving care for a population, it is important to incorporate population or sub-population statistics. Sub-population refers to a specific subset of the population (e.g., the subset of residents with decreased mobility). The registry will

- identify populations and sub-populations at-risk for pressure ulcers and in possible need of standardized care practices,
- track care delivered to individual and sub-populations of residents,
- identify trends among populations at risk,
- allow users to select a random sample for data tracking.

*Use of the NNHIC registry is not mandatory, but will make data entry much more efficient. Training sessions on this registry software will be provided. Teams may choose to use paper tools and logs or their own tools instead.*

7. Completing the worksheet

The pre-work activities worksheet at the end of this section will help you document progress as your team

- forms,
- develops an aim statement,
- defines (or identifies) a population of focus, and
- begins to define measures.
8. Developing an aim statement

The present Collaborative is modeled after the IHI Breakthrough Series Collaboratives, which use the Model for Improvement, a “trial-and-learn” approach to quality improvement. The Model for Improvement couples three fundamental questions with plan-do-study-act (PDSA) cycles:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in an improvement?

The first question is answered in an aim statement. An aim statement is a concise written statement describing what the team expects to accomplish in the Collaborative; it provides guidance for the team’s specific improvement efforts. The aim statement ensures that team activities align with the strategic goals of the team’s organization. Involving senior leadership in developing an aim statement can help teams ensure support for their work.

An example of an aim statement consistent with the goals of this Collaborative is as follows:

To improve prevention and treatment of pressure ulcers among residents at General Nursing Home, we will redesign practice and delivery systems. The number of days between a new nursing home-acquired pressure ulcer (stage II-IV) will be doubled. Within one calendar day of admission, 100% of admissions will have a risk assessment performed using the Braden Scale. Every 7 days, 100% of stage II-IV pressure ulcers will have a PUSH score documented. Of the residents at risk for pressure ulcers, 100% will be using appropriate pressure reducing support surfaces while in bed. To ensure that our efforts to prevent and properly treat pressure ulcers is complete, the number of residents with new nursing home-acquired stage I pressure ulcers will be tracked. Changes to prevention and treatment of pressure ulcers will include all residents (approximately 100 residents). Effective changes will be spread to all other nursing homes within the organization within one year.

In setting your aim, be sure to

**Involve senior leaders.** Senior leaders must align the aim with strategic goals of the organization. They must also provide for support personnel and resources from information systems, finance and reimbursement, medical affairs, etc.

**Base your aim on data or organizational needs.** Examine data within your organization. Refer to the Collaborative charter and focus on issues that matter at your nursing home.

**State the aim clearly and use numerical goals.** Teams make better progress when they have an unambiguous, specific aim. Setting numerical targets clarifies the aim, helps create tension for change, and directs measurement. For example, an aim to “ensure that 100% of admitted residents will have a risk assessment performed using the Braden Scale within one calendar day of admission” will be more effective than an aim to “improve risk assessments of admitted residents.”

There will be time to refine your work at the learning session and time during the year to complete work on the aim statement.
9. Defining a population of focus
For most participating nursing homes, the population of focus will be all residents. It is recommended that teams select populations that will be affected by the changes being made. That is, if the nursing home staff working to test and implement changes as part of this Collaborative interacts with residents regularly, then these residents should be considered the population of focus.

10. Defining measures
Measuring performance during the Collaborative will enable the team to evaluate the impact of changes it makes in an effort to improve the delivery of care. Performance measurement is not an end in itself. Measurement should be designed to accelerate improvement, not slow it down.

Each team will monitor progress on nine required measures and may choose additional, or “optional,” measures.

Required measures
The required measures address outcomes, processes of care.

Outcome measures
- Number of days between each new nursing home-acquired pressure ulcer stage II or greater (Incidence)
- Number of residents with stage II-IV pressure ulcers per 100 resident days (Prevalence)
- Percent of stage II-IV pressure ulcers that showed evidence of healing over the last month
- Reduce by half the percentage of residents with pressure ulcers as reported on Nursing Home Compare

Process measures
- Percent of admissions that have a pressure ulcer risk assessment within one calendar day of admission
- Percent of at-risk residents with a daily skin inspection
- Percent of stage II–IV pressure ulcers with weekly documented assessment of healing
- Percent of at-risk residents who are using appropriate pressure reducing support surfaces on bed and chair
- Percent of at-risk residents that are repositioned in a timely manner
Optional measures
Each team may specify additional measures that are important to the team; examples include quarterly risk assessments, significant weight loss (proxy measure of malnutrition), and satisfaction surveys for residents, families, and staff. Teams that wish to develop new measures should consider outcome measures as well as process measures and should clearly define the numerator and denominator for their measures.

A complete description of the measures and associated statistics, data collection methods, and corresponding Collaborative goals can be found beginning on page 28.

11. Senior leader reports

Senior leader report
Each nursing home will be expected to prepare a monthly report tracking the team’s progress on the selected measures and documenting the system changes tested during that month. The audience for the report is the senior leadership at the nursing home. Each nursing home also shares the report with other Collaborative participants and faculty. More information about the senior leader report (templates, tools, etc.) will be distributed at the first Learning Session.

Annotated run chart
The minimum standard for monitoring the progress of your team throughout the Collaborative is an annotated run chart of each of the required measures and the optional measures that you selected. Data points should be plotted monthly on a run chart and submitted with senior leader reports. The NNHIC Registry Software will produce run charts of most of the required measures. For measures not tracked in the NNHIC Registry, run charts can be constructed in an electronic format such as Microsoft Excel. An Excel tracking tool template that automatically produces the run charts will be provided to Collaborative participants, along with training sessions. The following run chart is one example of appropriate presentation of a measure for the Collaborative:
Annotations on the run chart should include changes that are being evaluated or implemented as well as other circumstances that could impact Collaborative measures.

12. Preparing a storyboard for Learning Session 1

At each learning session, nursing home teams will receive a 30" x 40" foam-core board, pushpins, tape, an easel, and other supplies, so that teams can present what they have accomplished and learned so far. Storyboards help create an environment conducive to sharing and learning from the experiences of others.

At the first learning session, your storyboard will be a way to help introduce your team to the other Collaborative participants. The storyboard is an opportunity to have some fun and show the unique character of your nursing home and your team.

The storyboard should be as clear and concise as possible. The audience for storyboards consists of other nursing home teams, Collaborative leadership, and faculty, and observers attending a learning session. Suggested content for a team storyboard is

- brief description of your nursing home,
- team name, with team members and their titles,
- draft aim statement,
- draft description of your resident population,
- draft list of selected optional measures, and
- description of progress so far.
Pre-work Activities Worksheet

1. **Team members**
   - (Name)                 (Title)
     a. Senior leader
     b. System leader
     c. Clinical champion
     d. Day-to-day leader
     e. Other team members

2. **Working draft of aim statement**

3. **Definition of population of focus**
   *Identify the nursing units from which your population of focus is drawn (could be all units in the facility). Population must include at least 50 residents.*

4. **Working list of measures selected**
   *For additional information, please refer to the Measurement Strategy on page 28.*
Required measures:

1. Number of days between new facility-acquired stage II-IV pressure ulcers
2. Number of residents with stage II-IV pressure ulcers per 100 resident days
3. Percent of stage II-IV pressure ulcers that showed evidence of healing over the last month
4. Percent of residents with stage I-IV pressure ulcers as reported on Nursing Home Compare
5. Percent of admissions that have a pressure ulcer risk assessment within one calendar day of admission
6. Percent of at-risk residents with a daily skin inspection
7. Percent of stage II-IV pressure ulcers with weekly documented assessment of healing
8. Percent of at-risk residents who are using appropriate pressure reducing support surfaces on bed and chair
9. Percent of at-risk residents who are repositioned in a timely manner

Potential issues in collecting data for the required measures:

Optional measures selected:

Pick from the Measurement Strategy on page 28, or generate your own.

1. 
2. 
3. 
4. 
Potential issues in collecting data for the optional measures selected:

5. Is everyone on the team aware of the current process for tracking pressure ulcers?
Collaborative Framework

The Collaborative framework includes the charter—problem statement, mission, goal, methods, and expectations—the change package, and measurement strategy, all of which were developed by Qualis Health, with a panel of clinical experts using the Institute for Healthcare Improvement (IHI) technique. References and recommended reading follow the measurement strategy.

Charter

The purpose of the Collaborative is to decrease the prevalence of pressure ulcers and, when they occur, to improve the effectiveness and efficiency of their treatment. This will be accomplished through the application of evidence-based practices to the processes of assessment, treatment, and monitoring of nursing home residents. The immediate goal of this Collaborative is to assure that 100 percent of the eligible resident population receives appropriate risk assessment, preventive care, and treatment 100 percent of the time. The ultimate goal of this Collaborative is to deepen the organizational commitment to improved systems of care for the frail elderly between and among all providers in the local community. Providers include nursing homes, acute and ambulatory care settings, attending and referring practitioners, home health agencies, assisted living facilities, paramedical transportation services, and informal caregivers such as family members and friends.

Problem statement

The prevalence and incidence of pressure ulcers in nursing homes is a topic of ongoing research.\(^1\) The evidence from large studies based on medical records or minimum data set (MDS) data suggests a nursing home pressure ulcer prevalence of 8.54% to 22%.\(^2-5\) The national average pressure ulcer prevalence among long-term nursing home residents, based on MDS data excluding admission assessments, is 8%.\(^6\) Smaller studies based on direct observation of nursing home residents have reported prevalence of pressure ulcers as high as 28%.\(^7\) Assuming 8% prevalence and a US nursing home population of 1.6 million, upwards of 128,000 of our nation’s nursing home residents have at least one pressure ulcer at any given time. The reported incidence of stage II or greater pressure ulcers in nursing homes varies from 1.9% in three months to over 20.4% in two years.\(^8,9\) One-month incidence of nursing home pressure ulcers, including stage I, has been reported as high as 23.9%.\(^10\)

In a large nationally derived sample of nursing homes, no significant improvement in the pressure ulcer prevalence was detected between 1992 and 1998.\(^11\) One reason for this apparent lack of progress in reducing the prevalence of pressure ulcers may be that adherence to the Agency for Healthcare Research and Quality (AHCPR) practice guidelines for pressure ulcer prevention may actually be quite low, despite widespread availability. For instance, in a random sample of 834 residents admitted without pressure ulcers to 35 different Veterans Health Administration nursing homes, adherence to AHCPR prevention guidelines was documented in the medical record only 41% of the time the guidelines were indicated.\(^12\) In another survey of clinical staff at Veterans Affairs nursing homes, AHCPR practice guidelines for pressure ulcer prevention and treatment were adopted by less than 40% of the staff.\(^13\)
Expert consensus is that most pressure ulcers are preventable. Moreover, there are excellent examples of nursing homes successfully and systematically reducing the incidence and prevalence of pressure ulcers through application of clinically sound guidelines and proven quality improvement methods. Xakellis demonstrated a reduction in the six-month incidence of pressure ulcers from 23% to 5% in a single facility. Lyder reported an 87% and 76% reduction in the incidence of pressure ulcers among high-risk residents in two nursing homes. Lesham and Skelsky reported 42% reduction in pressure ulcer prevalence over four years after implementation of a quality improvement program in a long-term care facility. In addition to the individual examples of improvement, at least one large nursing home chain is reported to have experienced an overall risk-adjusted 25% reduction in nosocomial pressure ulcers from 1991 to 1995.

The business case for dedicating resources to improving pressure ulcer care involves more than simply the cost of prevention and treatment. For affected individuals, pressure ulcers may be associated with an increased risk of serious infections, pain and suffering, intrusive and time consuming treatments, restrictions in daily activities, and alteration in self-image. There is some evidence that the presence of pressure ulcers among residents of long-term care facilities is independently associated with increased mortality. Nationally, failure to effectively treat or prevent pressure ulcers (F-tag 314) has consistently been among the top ten most frequent nursing home citations. Effective pressure ulcer prevention and treatment is the only way nursing homes can hope to defend against legal and regulatory liability associated with poor pressure ulcer outcomes. Although effective long-term prevention of pressure ulcers is costly, adoption of AHCPR prevention guidelines may significantly reduce those costs and result in a lower mean cost of providing pressure ulcer-free days for nursing home residents compared to prevention programs that are not based on the AHCPR guidelines.

There is also evidence from two different studies that use of research-based guidelines can result in a reduction of 30% to 78% in the mean cost per day of treatment of existing pressure ulcers.

**Mission**

The mission of this Collaborative is to achieve, in 13 months, breakthrough improvement in the assessment and treatment of pressure ulcers through consistent use of evidence-based clinical practices in the nursing homes participating in the Collaborative.

Consistent use of these evidence-based practices is best achieved in nursing homes that use a resident-centered care philosophy and that have created a culture of safety.

Systems designed to promote resident-centered care provide each resident with meaningful choices in treatment and lifestyles, and honor those choices whenever possible. A culture of resident-centered care places the resident’s quality of life at the center of clinical decisions.
A safety culture can be defined as “the product of individual and group values, attitudes, competencies, and patterns of behavior that determine the commitment to, and style and proficiency of, an organization’s health and safety programs.” Nursing homes with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of assessment, treatment, and preventive measures. Treating and preventing pressure ulcers is a perfect example of improved patient safety. This Collaborative supports, as central to its mission, a nursing home culture that embraces both resident safety and resident-centered care in the pursuit of optimal pressure ulcer outcomes.

The Collaborative faculty will help each of the nursing homes achieve this mission and their facility-specific aim. The faculty will support the teams in meeting the Collaborative goals by sharing the best available scientific knowledge on creating resident-centered care in a safe environment through improved clinical practices and by teaching and applying methods for organizational change.

**Goals**

The main goals of the Collaborative are to

1. Double the number of days between the occurrence of new facility-acquired stage II-IV pressure ulcers (i.e., decrease the incidence rate by 50%)
2. Decrease the prevalence of stage II-IV pressure ulcers by 50%
3. Increase the percentage of pressure ulcers that show evidence of healing within one month to 100%
4. Reduce by 50% the percentage of residents with pressure ulcers as reported on Nursing Home Compare
5. Increase the percentage of residents that have a timely and valid pressure ulcer risk assessment upon admission to 100%
6. Increase the percentage of residents with a daily skin inspection to 100%
7. Increase the percentage of stage II–IV pressure ulcers that have weekly documented assessment of healing to 100%
8. Increase the percentage of at-risk residents who have appropriate1 pressure reducing support surfaces to 100%
9. Increase the percentage of at-risk residents who are repositioned in a timely manner to 100%
10. Achieve a formal commitment to a culture of continuous improvement within participating organizations

---

1 For a definition of “appropriate” please see the Measurement Strategy for pressure reducing support surfaces on page 33.
11. Promote the rapid spread of improvements in pressure ulcer prevention and treatment to the widest possible audience of clinical providers

**Methods**

Each nursing home is expected to develop an aim statement (a statement on what the team expects to accomplish during the Collaborative) that includes specific goals relating to preventing and treating pressure ulcers. Nursing homes may begin by working initially within a specific population (population of focus) within their facility. The ultimate goal is to spread the improvements to other populations either within or beyond the facility. Nursing homes should select a population of focus based on the need for improvement in pressure ulcer processes or outcomes.

Both process and outcome measurement strategies will be used to assess organizational progress toward achieving Collaborative goals. Nursing homes will learn an improvement strategy that includes breakthrough goals and a method to develop, test, and implement changes in their processes of care and infrastructure. Nursing homes will be expected to collect well-defined data that relate to their aim at least monthly and to plot these data over time for the duration of the Collaborative. An annotated time series or run chart (see Glossary) will be used to assess the impact of changes.

The Collaborative faculty will aid nursing homes in capitalizing on the learning and improvement from the focused project by simultaneously coaching senior leaders in nursing homes to develop a system for spreading improvement to other facilities or to other clinical topics (e.g., pain management or activities of daily living).

**Expectations**

**The Collaborative faculty will**

- provide expertise on clinical content and process improvement, both during and between learning sessions;
- offer coaching to teams;
- provide an electronic mailing list (e-mail list) and other communication venues for shared learning;
- assess team progress and provide feedback to teams monthly;
- plan and implement the four face-to-face meetings (three learning sessions and an outcomes congress);
- provide resources to participants to accelerate spread among nursing homes nationwide;
- maintain and safeguard the confidentiality of privileged data or information in compliance with HIPAA regulations—whether written, photographed, or electronically recorded and whether...
Nursing homes are expected to

- perform pre-work activities as outlined in the Pre-work Activities section of the handbook;
- connect the goals of the Collaborative work to a strategic initiative in the nursing home;
- provide a senior leader to sponsor and actively support the team;
- participate in each learning session (participation by all core team members is highly recommended, and participation in the congress that concludes the Collaborative is desirable);
- identify the performance measures that the team will target, including the required performance measures related to prevention and treatment of pressure ulcers;
- plan, design and implement plan-do-study-act (PDSA) improvement cycles to meet the targeted performance measures;
- submit monthly reports to the team’s senior leader and Collaborative faculty, identifying progress and PDSA cycles implemented;
- create storyboards for presentation at each learning session;
- share information with the Collaborative, including details of changes made and data to support these changes, both during and between learning sessions;
- maintain and safeguard the confidentiality of privileged data or information in compliance with HIPAA regulations — whether written, photographed, or electronically recorded and whether generated or acquired by the team — which can be used to identify an individual patient, practitioner, nursing home, health plan, or patient population.
Change Package—
The change package is a collection of ideas for changing processes of care. The following figure and table present ideas for treating and preventing pressure ulcers.

Improved Pressure Ulcer Outcomes

Optimal Quality of Life

Integrate

Community
- Resources
- Policies
- Healthcare providers

Nursing Home residents-family-staff

Organizational Commitment to a culture of continuous quality improvement

Assessment & Monitoring

Prevention Strategies

Treatment Interventions
<table>
<thead>
<tr>
<th>Improvement Strategies</th>
<th>Key Changes for Pressure Ulcer Treatment and Prevention</th>
</tr>
</thead>
</table>
| Develop close strategic and operational ties with other healthcare organizations and relevant community stakeholders | • Work actively with other healthcare organizations (e.g. with other nursing homes, hospitals, home health, medical transporters, adult day care, assisted living facilities, etc.) to optimize pressure ulcer prevention and treatment across clinical settings  
• Use local and regional networks of health care organizations (e.g., Quality Improvement Organizations, Corporate resources, long-term care Ombudsman, State survey and certification agency, long-term care trade associations, long-term care advocacy groups, and professional healthcare associations) as resources for improving pressure ulcer prevention and treatment  
• Use community based wound-care expertise (e.g., certified wound care nurses, clinical nurse specialists, advance registered nurse practitioners, dieticians, occupational and physical therapists, and physicians) to augment facility resources if needed |
| Assure strong and persistent organizational commitment | • Articulate a vision of high quality pressure ulcer prevention and treatment  
• Provide stable administrative and clinical leadership committed to high quality pressure ulcer prevention and treatment  
• Identifies a team of key staff to participate in interdisciplinary pressure ulcer prevention and treatment  
• Embed AHCPR pressure ulcer prevention and treatment guidelines into daily practice  
• Continually evaluate the effectiveness of the pressure ulcer prevention and treatment program  
• Provide effective ongoing training on pressure ulcer prevention and treatment to staff, volunteers, family members, and residents  
• Consistently provide the number and skill-mix of staff necessary to implement high
quality pressure ulcer prevention and treatment 24 hours a day 365 days a year

- Consistently provide the physical resources necessary for high quality pressure ulcer prevention and treatment 24 hours a day 365 days a year

- Consistently provide rewards and incentives in recognition of pressure ulcer quality improvement to staff, volunteers, family members, and residents

- Actively seek out improvements in pressure ulcer prevention and treatment and spread them throughout and beyond the organization

- Empower staff, volunteers, family members, and residents to meaningfully contribute to quality improvement activities

<table>
<thead>
<tr>
<th>Improvement Strategies</th>
<th>Key Changes for Pressure Ulcer Treatment and Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish effective systems for assessing and monitoring residents for pressure ulcers</td>
<td>- Use a pressure ulcer risk assessment process that identifies immobility/inactivity, moisture/incontinence, malnutrition, and history of pressure ulcers as risk factors for pressure ulcer development</td>
</tr>
<tr>
<td></td>
<td>- Use a pressure ulcer risk assessment process that is standardized and addresses admissions, readmissions, changes in condition, and quarterly care plan updates</td>
</tr>
<tr>
<td></td>
<td>- Implement a process for ensuring systematic daily skin inspection of all residents at risk for pressure ulcers</td>
</tr>
<tr>
<td></td>
<td>- Implement a process for ensuring that adverse findings of daily skin inspections are acted upon in a timely fashion and incorporated into each resident’s care plan</td>
</tr>
</tbody>
</table>
- Ensure that professional clinical staff accurately distinguish between pressure ulcers and other chronic wounds (e.g., arterial or venous ulcers of the lower extremities)

- Implement a process for assessing and documenting pressure ulcers consistent with NPUAP staging system

- Implement a process for assessing and documenting pressure ulcer healing at least weekly
| Implement evidence-based processes and systems for pressure ulcer prevention | - Ensure that individualized pressure ulcer risk assessments form the basis of pressure ulcer care planning  
- Use written positioning and repositioning protocols consistent with AHCPR guidelines and optimal quality of life  
- Ensure pressure relief of heels for all at-risk residents while in bed  
- Minimize skin injury due to friction and shear through proper positioning and transfer techniques  
- Eliminate massage over bony prominences  
- Select pressure reducing support surfaces using clinically relevant criteria  
- Use pressure reducing bed and chair surfaces for all at-risk residents  
- Minimize exposure of skin to moisture due to incontinence, perspiration, or wound drainage is minimized  
- Provide sufficient nutrition to assist with prevention and healing of pressure ulcers to all at-risk residents  
- Maximize resident mobility and activity consistent with optimal quality of life |
| Implement evidence-based wound care processes and systems | • Consistently use wound care techniques that create wound environments free of non-vitalized tissue, clinical infection, dead-space, and excess wound exudate

• Consistently use wound care techniques that create moist, insulated wound surfaces with adequate wound bed oxygenation and substrate for tissue repair

• Standardize wound care products and protocols consistent with best evidence

• Ensure the wound treatment plans are evaluated and modified for all wounds that fail to show evidence of healing after two weeks of a given treatment regimen

• Ensure the treatment plan is evaluated and modified immediately for pressure ulcers that show evidence of worsening or complications such as sepsis or spreading cellulitis |
Measurement Strategy—

The following table lists measures that teams can select from and adapt. Teams can also develop new measures based on the issues that are of most interest and importance to them. All Collaborative teams should use the same measure statistics so that measure performance may be compared among teams, but methods for data collection may be varied to accommodate variations in local practice and data collection capacity. Teams using the NNHIC Pressure Ulcer Registry should refer to the Registry’s documentation for detailed definitions that are specific to the Registry. During the national Collaborative, participating nursing homes tested this measurement strategy. Based on their experience, two measures are no longer recommended as quality measure, although they still appear in the Registry as 04 and B1. All measures are reported monthly.

### Outcome Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1. Number of days between new facility-acquired stage II–IV pressure ulcers <em>(Required)</em></td>
<td>N = Number of days between new facility-acquired stage II–IV pressure ulcers D = 1</td>
<td>To track this measure over time, population of interest must remain relatively stable in size and type</td>
<td>If not using the NNHIC registry, consider creating a log of residents with new facility-acquired pressure ulcers to calculate this measure. Teams may find it helpful to distinguish between partial thickness (stage II) and full thickness (stage III-IV) pressure ulcers</td>
<td>Double the average number of days between new facility-acquired pressure ulcers established in three-month baseline period</td>
<td>Highlights each new pressure ulcer as an opportunity to examine systems and strategies for pressure ulcer prevention.</td>
</tr>
<tr>
<td>Measure</td>
<td>Statistic</td>
<td>Notes</td>
<td>Data Collection</td>
<td>Appropriate Collaborative Goals</td>
<td>Rationale</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>-------</td>
<td>-----------------</td>
<td>---------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>O2. Number of residents with stage II-IV pressure ulcers per 100 resident-days <em>(Required)</em></td>
<td>N = Number of residents with at least one stage II–IV pressure ulcer in a given time period&lt;br&gt;D = Number of resident-days in a given time period&lt;br&gt;F = 100&lt;br&gt;Statistic = N/D x F</td>
<td>Resident-day = one resident for one day.&lt;br&gt;The numerator counts all residents with both facility-acquired and community-acquired stage II-IV pressure ulcers during the selected time period.&lt;br&gt;The NNHIC Registry uses a 3-month rolling period on a monthly basis; therefore, this Registry measure is not valid until the third month of data collection.</td>
<td>If not using the NNHIC registry, consider creating a log of all residents with pressure ulcers. The numerator can be obtained by counting all residents with stage II-IV pressure ulcers during the selected time period.&lt;br&gt;The denominator can be estimated by multiplying the average daily census by the number of days in the time period. The multiplication factor remains a 100.&lt;br&gt;Teams may find it helpful to distinguish between partial thickness (stage II) and full thickness (stage III-IV) pressure ulcers</td>
<td>Reduce by 50%</td>
<td>Prevalence reflects the overall burden of care and is affected by number of residents admitted with pressure ulcers, the number of residents who develop pressure ulcers, and the average length of time to healing</td>
</tr>
<tr>
<td>Measure</td>
<td>Statistic</td>
<td>Notes</td>
<td>Data Collection</td>
<td>Appropriate Collaborative Goals</td>
<td>Rationale</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>-------</td>
<td>-----------------</td>
<td>-------------------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| O3. Percent of stage II–IV pressure ulcers that showed evidence of healing over the last month *(Required)* | N = Number of stage II–IV pressure ulcers that are more than one month past discovery date and show evidence of healing over the last month  
D = Number of stage II–IV pressure ulcers that are more than one month past the discovery date | “Evidence of healing over the last month” is defined as a decrease between first PUSH score and last PUSH score in the most recent month (see PUSH tool)  
Only include residents that were in residence continuously during the last month | Exclude pressure ulcers of residents for whom healing is not a treatment goal  
To calculate this measure if not using the NNHIC registry, review all records for wounds that have remained unresolved over the last month | Achieve 100% | Assures that any pressure ulcer that has a treatment goal of healing is, in fact, showing progress towards healing each month |
| 05. Percent of residents with stage I–IV pressure ulcers as reported on Nursing Home Compare *(Required)* | | The CMS measures of pressure ulcer prevalence stratifies residents by risk and length of stay  
The pressure ulcer quality measure posted on Nursing Home Compare website reflects MDS data from 5—7 months prior | | Reduce by 50% | Used by CMS, consumers, and providers as a quality measure |
### Process Measures:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| P1. Percent of admissions that have a pressure ulcer risk assessment within one calendar day of admission  
**Required** | N = Number of admissions in a given time period that have a pressure ulcer risk assessment performed utilizing a validated risk assessment tool within one calendar day of admission  
D = Number of admissions in a given time period | Admissions include residents that are readmitted to the facility  
Validated pressure ulcer risk assessment tools:  
- Braden Scale  
- Norton Scale | If not using the NNHIC registry, consider creating a log of all admissions | Achieve 100% | AHCPR recommends that every resident, upon admission, receive a pressure ulcer risk assessment |
| P1.5. Percent of residents with a pressure ulcer risk assessment at least every 90 days  
**Optional** | N = Number of residents with a pressure ulcer risk assessment using a validated risk assessment tool at least every 90 days  
D = Number of persons in residence continuously for 90 days | Validated pressure ulcer risk assessment tools:  
- Braden Scale  
- Norton Scale | If not using the NNHIC registry, consider sampling a subset of records for review (at least 10% of all residents but no fewer than five residents) | Achieve 100% | AHCPR guidelines recommend that every resident receive a pressure ulcer risk assessment |
<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| P2. Percent of at-risk residents with a daily skin inspection *(Required)* | N = Number of at-risk residents with a daily skin inspection  
D = Number of at-risk residents | Daily skin inspection is a visual examination of the resident from head-to-toe once every 24-hour period  
At-risk is defined on the Braden Scale as score of 18 or less. The definition of at-risk will vary with other tools | Documentation of daily skin inspection may be found in the medical record or a separate flow sheet  
Teams may develop non-document based systems for auditing daily skin inspections, utilizing inter-shift reports or staff interviews  
Use sampling to select a subset of records or residents for review (at least 10% of all residents but no fewer than five residents) | Achieve 100% | AHCPR guidelines recommend that every at-risk resident receive a daily skin inspection |
<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| P3. Percent of stage II – IV pressure ulcers with weekly documented assessment of healing *(Required)* | N = Number of stage II – IV pressure ulcers with weekly documented assessment of healing  
D = Number of stage II – IV pressure ulcers | Note: This measure includes all stage II – IV pressure ulcers, not just facility-acquired pressure ulcers  
"Weekly" is defined as within 7 calendar days  
Only include residents that were in residence continuously during the last month | Consider using the PUSH tool to assess healing  
If not using the NNHIC registry, consider sampling a subset of records for review (at least 10% of all residents but no fewer than five residents) | Achieve 100% | AHCPR guidelines recommend pressure ulcers be assessed for healing weekly |
| P4/5. Percent of at-risk residents who are using appropriate pressure reducing surfaces on bed and chair *(Required)* | N = Number of at-risk residents who are using appropriate pressure reducing support surfaces on bed and chair  
D = Number of at-risk residents | Appropriate bed and chair support surfaces are those consistent with AHCPR guidelines and include:  
- High-density foam at least 4 inches thick  
- Properly inflated static air mattress  
At-risk is defined on the Braden Scale as 18 or less. The definition of at-risk will vary with other tools | Use sampling to select a subset of residents for visual audit (at least 10% of all residents but no fewer than five residents)  
Teams may find it useful to report this measure for beds and chairs separately, as well as together | Achieve 100% | To assure that all residents at risk for pressure ulcers have appropriate support surfaces on bed and chair |
<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| P6. Percent of at-risk residents with unintentional weight loss *(Optional)* | N = Number of at-risk residents with unintentional weight loss  
D = Number of at-risk residents | Weight loss may be defined as a 5% loss in weight in one month from usual  
Exclude intentional weight loss residents and/or those residents for whom prevention or healing of pressure ulcers is not a treatment goal  
At-risk is defined on the Braden Scale as 18 or less. The definition of at-risk will vary with other tools | Create or use existing data collection system that captures data concurrently  
Consider sampling a subset of records for review (at least 10% of all residents but no fewer than five residents) | Achieve 0% | Malnutrition is a risk factor for developing and delayed healing of pressure ulcers |
| P7. Percent of at-risk residents who are repositioned in a timely manner (Required) | $\text{N} = \text{Number of at-risk residents who are repositioned at a frequency determined by risk assessment and documented in care plan}$ | Residents should be encouraged and enabled to reposition themselves when possible. | To gather data on this process, an audit of actual care practices is recommended rather than reliance on chart documentation. Possible audit process: 1) auditor places a laminated card under selected residents during repositioning with the time of placement documented on the card 2) when staff next repositions the resident (or cues resident to reposition self), they return the card to the auditor 3) the time of return is recorded, and elapsed time between repositioning can be determined. Consider sampling a subset of mobility impaired residents for review (at least 10% of all residents but no fewer than five residents) | 100% | AHCPR guidelines recommend at-risk individuals have a written schedule for repositioning and be repositioned at least every two hours while in bed and every hour while in chair |
**Balancing Measures**: Measures that together with the selected process and outcome measures describe a great system of care. These measures may be process or outcome measures, and usually measure some aspect of the system that may inadvertently be affected by changes in specific areas of the model.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>Notes</th>
<th>Data Collection</th>
<th>Appropriate Collaborative Goals</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2. Staff Satisfaction</td>
<td>Average satisfaction score from satisfaction survey</td>
<td>Survey of staff participating in this Collaborative (includes the “home” team, not just those attending learning sessions)</td>
<td>Consider a select focus group of staff impacted by process changes to avoid bias from non-respondents (satisfaction level may influence the likelihood that someone completes the survey) Consider using existing survey instruments. May not be appropriate to survey monthly; consider a survey quarterly or at the start and end of the Collaborative.</td>
<td>To be determined by team</td>
<td>Indicates if the quality improvement efforts are associated with negative or positive impact on staff</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B3. Resident/Family Satisfaction</td>
<td>Average satisfaction score from satisfaction survey</td>
<td>Survey of resident/family members participating in this Collaborative (includes the “home” team, not just those attending learning sessions)</td>
<td>Consider a select focus group of residents/family impacted by process changes to avoid bias from non-respondents Consider using existing survey instruments. May not be appropriate to survey monthly; consider a survey quarterly or at the start and end of the Collaborative.</td>
<td>To be determined by team</td>
<td>Indicates if the quality improvement efforts are associated with negative or positive impact on residents/family members</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
References


Collaborative Leadership and Faculty

Collaborative Co-Chair and Faculty
Nancy Bergstrom, PhD, RN, FAAN
Theodore J. & Mary E. Trumble Professor of Aging Research
Associate Director for Research, Center on Aging
University of Texas Health Science Center, Houston
7000 Fannin Street, Suite 720
Houston, TX 77030
Nancy.Bergstrom@uth.tmc.edu

Collaborative Co-Chair and Faculty
Joanne Lynn, MD
Director
Center to Improve Care of the Dying
The Washington Home Center for Palliative Care Studies
4200 Wisconsin Ave, NW, 4th floor
Washington, DC 20016
jlynn@medicaring.org

Collaborative Director and Faculty
Jeff West, RN
Project Manager
Qualis Health
10700 Meridian Avenue North, Suite 100
Seattle, WA 98133–9075
206.364.9700, ext. 7232
jeffw@qualishealth.org
jwest@waqio.sdps.org

Collaborative Director and Faculty
Wendy Hammerschmidt
Project Coordinator
Qualis Health
10700 Meridian Avenue North, Suite 100
Seattle, WA 98133–9075
206.364.9700, ext. 2035
wendyh@qualishealth.org
whammerschmidt@waqio.sdps.org

Collaborative Improvement Advisor and Faculty
Donna Daniel, PhD
Health Services Research Associate
Qualis Health
10700 Meridian Avenue North, Suite 100
Seattle, WA 98133–9075
206.364.9700, ext. 2376
donnad@qualishealth.org
ddaniel@waqio.sdps.org

Collaborative Improvement Advisor and Faculty
Susan Hausmann, MS
Health Data Analyst
Qualis Health
10700 Meridian Avenue North, Suite 100
Seattle, WA 98133–9075
206.364.9700, ext. 2890
susanh@qualishealth.org
shausmann@waqio.sdps.org

Analyst, Spread Evaluation
Kelly Westfall
Health Data Analyst
Qualis Health
10700 Meridian Avenue North, Suite 100
Seattle, WA 98133–9075
206.364.9700, ext. 2494
kellyw@qualishealth.org
kwestfall@waqio.sdps.org
CMS Task Leader
Rachel Nelson, MHA
National & Corporate Nursing-Home Collaboratives
Task Leader
Centers for Medicare & Medicaid Services,
Office of Clinical Standards & Quality
7500 Security Boulevard, S3-02-01
Baltimore, MD 21244-1850
Rnelson@cms.hhs.gov

Subject Matter Specialist
Paul McGann, MD, FRCPC
Centers for Medicare & Medicaid Services
7500 Security Boulevard; S3-02-01
Baltimore, MD 21244-1850
PMcgann@cms.hhs.gov

Core Faculty Core Faculty
David R. Gifford MD, MPH
Quality Partners of Rhode Island
235 Promenade St, Suite 500
Providence, RI 02908
David_gifford@brown.edu

Jim Roberts, MD
Consultant, Quality Improvement
685 Oakview Place
Sequim, WA 98382
growprairie@olypen.com

Core Faculty
Judy Ryan, PhD, RN, FAAN
Former CEO & President
Evangelical Lutheran Good Samaritan Society
2626 E Regency Court
Sioux Falls, SD 57103
rryan1418@aol.com
Collaborative Glossary

**action period**
The time between learning sessions when teams work on improvement in their home organizations. They are supported by the Collaborative leadership team and faculty, and they are connected to other Collaborative team members.

**aim, or aim statement**
A written, measurable, and time-sensitive statement of the accomplishments a team expects to make from its improvement effort. The aim statement contains a general description of the work, the population of focus, the numerical goals, and a statement on spreading the changes to another population.

**annotated run chart, or annotated time series**
A line graph showing results of improvement efforts plotted over time. The changes or annotations made are also noted on the chart at the time they occur, allowing the viewer to connect changes made with specific results.

**assessment scale**
A numerical scale used to assess the progress of participating teams toward reaching their aim. 1 = forming team, and 5 = outstanding, sustainable improvement. In each Collaborative, Collaborative faculty assesses teams and may also ask them to evaluate their own progress using this scale. The expected level of attainment by the end of the Collaborative is a 4 (significant progress).

**BTS Collaborative**
Breakthrough Series Collaborative (see Collaborative)

**Collaborative chair**
The leader of the Collaborative, usually an expert in the topic.

**clinical champion**
An individual in the organization who believes strongly in the improvements and is willing to try them and work with others to learn them. Teams need at least one nurse champion on their team. Champions in other disciplines who work on the process are important as well.

**change concept**
A general idea for changing a process. Change concepts are usually at a high level of abstraction, but evoke multiple specific ideas for how to change processes. “Simplify,” “reduce handoffs,” “consider all parties as part of the same system,” are all examples of change concepts.
change package
A collection of change concepts and key changes.

CQIO
Coordinating quality improvement organization. Qualis Health is the CQIO for the National Nursing Home Improvement Collaborative.

Collaborative
A time-limited effort (usually 6–13 months) made by multiple organizations that come together with faculty to learn about and create improved processes on a specific topic. The expectation is that the teams share expertise and data with each other; thus, “Everyone learns, everyone teaches.”

Collaborative framework
The Collaborative framework consists of the charter, change package, and measurement strategy. The framework provides constant direction to the teams regarding why they are doing this work, what changes they can make, and how they can use measurement to determine if they are making changes that result in improvements.

Collaborative team
All individuals from the nursing homes and the nursing home’s QIO or QIOP that drive and participate in the improvement process. A core team of three individuals attends the learning sessions, but a larger team of six to eight people, often from various disciplines, participates in the improvement process in the organization.

community of practice
Groups of people who share a concern, set of problems, mandate or sense of purpose. Communities of practice complement existing structures by promoting collaboration, information exchange, and sharing of best practices across boundaries of time, distance, and organizational hierarchies. A great deal of knowledge creation happens in these less visible but increasingly recognized and supported groups.

Collaborative coordinator
Qualis Health staff person responsible for the day-to-day activities of the Collaborative, including meetings, materials, phone calls, website, reports, and information management.

cycle
See PDSA cycle.

day-to-day leader
The person on the nursing home’s team who is responsible for driving the improvement process every day. This person manages the team, arranges meetings, and assures that tests are being completed and that data are collected.
director
The manager of a Collaborative who works with the faculty, teaches and coaches teams, and plans and executes learning session and action period activities.

early adopter
In the improvement process, the opinion leader within the organization who brings in new ideas from the outside, tries them, and uses positive results to persuade others in the organization to adopt the successful changes.

early majority/late majority
The individuals in the organization who will adopt a change only after it is tested by an early adopter (early majority) or after the majority of the organization is already using the change (late majority).

electronic mailing list, or e-mail list
A communication system that allows teams to stay connected with the leadership team and each other during the action periods. Sharing information, getting questions answered, and solving problems are all part of e-mail list activity.

handbook
Pages containing a complete description of the Collaborative, along with expectations and activities to complete before the first meeting of the Collaborative.

IHI
Institute for Healthcare Improvement

implementation
Taking a change and making it a permanent part of the system. A change may be tested first and then implemented throughout the organization.

improvement advisor
The expert in process improvement and measurement who assists the co-chairs and director in guiding the Collaborative’s work and coaching teams.

improvement cycle
See PDSA cycle.

key changes
The list of essential process changes that will help lead to breakthrough improvement, usually developed by the leadership team and chair based on literature and their experiences.

key contact
The individual on the organization team who takes responsibility for communication between the team and Qualis Health, including monthly reporting and disseminating information to team members. The key contact is often the day-to-day leader on the team.
**key messenger**
The individual in the organization who can be relied on for spreading ideas to others within the organization.

**knowledge management**
A method for gathering information and making it available to others.

**leadership team**
The small group of experts on the topic who assist the chair and director in teaching and coaching participating teams. Usually the leadership team contains representatives from all the disciplines who are involved in the change process.

**learning session**
A two-day meeting during which team members meet with faculty and collaborate to learn key changes in the topic area, including how to implement changes, accelerate improvement, and overcome obstacles. Teams leave these meetings with new knowledge, skills, and materials that prepare them to make immediate changes.

**measurement strategy**
A collection of measures, required and optional, that describe in detail how to calculate statistics and provide direction on appropriate goals.

**measure**
A focused, reportable unit that will help a team monitor its progress toward achieving its aim.

**Model for Improvement**
An approach to process improvement, developed by Associates in Process Improvement, which helps teams accelerate the adoption of proven and effective changes.

**NNHIC**
National Nursing Home Improvement Collaborative

**outcome measure**
Measures of change (or lack of change) in the well-being of a defined population. Improvement in an outcome measure reflects the health status of the resident, whereas process measure reflect the care delivery to the resident. Improvement in an outcome measure has a direct effect on mortality and morbidity.

**outcomes congress**
A large public meeting at the end of the Collaborative during which the best practices in the topic area are presented to others interested in making improvements in the area.
**PDSA cycle**
A structured trial of a process change. Drawn from the Shewhart cycle, this effort includes the following steps:

- **plan**—a specific planning phase;
- **do**—a time to try the change and observe what happens;
- **study**—sometimes called “check,” an analysis of the results of the trial; and
- **act**—devising next steps based on the analysis.

This PDSA cycle will naturally lead to the “plan” component of a subsequent cycle. PDSA cycles are also called “rapid cycles” or “improvement cycles.”

**pilot population**
See population of focus.

**pilot site**
The clinic location where changes are tested. After implementation and refinement, the changes will be spread to additional locations.

**population of focus**
A designated set of residents who will be tracked to determine whether changes have resulted in improvements. For this Collaborative, a pilot population might be defined as residents having a specific stage of pressure ulcer or residents at high risk who will be tested and the team will implement changes as part of the Collaborative.

**pre-work period**
The time before the first learning session when teams prepare for their work in the Collaborative. Pre-work activities include selecting team members, registering for the first learning session, scheduling initial meetings, preparing an aim statement, defining a pilot population, selecting measures, and initiating data collection.

**process change**
A specific change in a process in an organization. More focused and detailed than a change concept, a process change describes what specific changes should occur. “Instituting a pain management protocol for patients with moderate to severe pain” is an example of a process change.

**PUSH**
The Pressure Ulcer Scale for Healing (PUSH) Tool developed by the National Pressure Ulcer Advisory Panel (NPUAP). This is a quick, reliable tool to monitor the change in pressure ulcer status over time.
QIO
Quality improvement organization. These organizations are under contract with the Centers for Medicare & Medicaid Services (CMS) to monitor and improve the quality of care for people with Medicare.

QIOP
Quality improvement organization peer. For the purposes of the NNHIC, a QIOP is a multi-building entity nursing home organization with facilities of 30 buildings or greater in at least 5 states. QIOPs will act in the same capacity as a QIO and will attend and support their nursing home in all Collaborative activities.

rapid cycle
See PDSA cycle.

run chart
See “annotated time series.”

sampling plan
A specific description of the data to be collected, the interval of data collection, and the subjects from whom the data will be collected. The sampling plan is included on all senior leader reports. It emphasizes the importance of gathering samples of data to obtain “just enough” information.

senior leader
The executive in the organization who supports the team and controls the resources employed in the processes to be changed. This person is usually at the administrator level or higher. The senior leader works to connect the team’s aim to the organization’s mission, provides resources for the team, and promotes the spread of the team’s work to others.

senior leader report
The standard reporting format for monthly progress updates in a Collaborative. This concise, two-page report includes an aim statement, measures to be used, a sampling plan, a listing of the changes made, and the results displayed graphically on run charts. The nursing home pilot team prepares the report and sends it to the senior leader at the nursing home, along with posting it to the electronic mailing list. Qualis Health staff review and summarize monthly reports.

spread
The intentional and methodical expansion of the number and type of people, units, or organizations using the improvements. The theory and application of spread comes from the literature on diffusion of innovation.

staging plan
A plan of what populations/units will be spread to and in what order.
**system leader**
The team member who has direct authority to allocate the time and resources to achieve the team’s aim, has direct authority over the particular systems affecting the change, and will champion the spread of successful changes to other resident populations. In the present Collaborative, this person may be the administrator or the director of nursing services.

**technical expert**
The team member in the organization who has a strong understanding of the process to be improved and changes to be made. A technical expert may also provide expertise in process improvement, data collection and analysis, and team function.

**test**
A small-scale trial of a new approach or a new process. A test is designed to learn if the change results in improvement and to fine-tune the change to fit the organization and patients. Tests are carried out using one or more PDSA cycles.

**tipping point**
In epidemiology, the concept that small changes will have little or no effect on a system until a critical mass is reached. Then a further small change “tips” the system and a large effect is observed.