Pittsburgh Regional Health Initiative

POSITIVE DEVIANCE INITIATIVE

Prevention of Falls with Major Injury in Long-Term Care Facilities

Stacie Bonenberger, MOT, OTR/L

Jennifer Condel, SCT(ASCP)MT

Serah Iheasirim, MPH

Keith Kanel, MD

Anneliese Perry, MS, NHA

Emily Stahl

Nancy Zionts, MBA

January 13, 2016

PRHI Positive Deviance Initiative

Focus on Resident Falls with Major Injury in Nursing Homes

Executive Summary

Adaptive Positive Deviance is an innovative twist on traditional quality improvement in health care. Rather than working alone, compatible organizations might actually improve faster by working together. A tried-and-true method of doing this is the practice of Positive Deviance – the notion that refined best practices may be identified by studying the top performers (the "positive deviants"), and those same practice strategies can be implanted into new organizations. With increasingly robust, publicly reported "big data" sources (e.g., Centers for Medicare & Medicaid Services (CMS) Hospital Compare or Nursing Home Compare), top-performers may be identified with precision and confidence.

In this study, the Pittsburgh Regional Health Initiative (PRHI) applied positive deviance principles in developing a practical guide for long-term care facilities to reduce resident falls with major injury. By using *Perfecting Patient Care*^{SM} lean methodology and observation skills to study one of the region's top performers based on the 2015 CMS Nursing Home Compare – Vincentian de Marillac -– PRHI was able to extract key drivers of success (Figure 1) that could be used to troubleshoot other organizations' performance.

Figure 1: **DRIVERS OF SUCCESSFUL FALL PREVENTION IN LONG-TERM CARE FACILITIES**
An Approach Based on Adaptive Positive Deviance

1. Favorable staffing ratios
2. High visibility of leadership
3. Deep and consistent connection to organizational mission and values
4. Investment in staff growth and development
5. Warm staff hand-offs
6. Pulling the Andon Cord: Front-line staff empowerment
7. Optimize the environment
8. "All eyes on deck" culture
9. Organizational commitment to quality improvement
10. Value staff retention

Contents

Translating Excellence: The Positive Deviance Approach in Quality Improvement

The positive deviance approach to healthcare quality improvement presumes that the true drivers of success can be found by studying the practices of the highest performing providers in a community. It implies that new best practice strategies do not need to be designed; they are out there, already pragmatically adjusted to compensate for custom, attitudes, barriers, and behaviors. They merely await to be revealed.

Positive deviance is an action-oriented approach. By studying just the high-performing positive deviants, we circumvent the costs and time attached to traditional health services research, which is rooted in randomized controlled trials and meta-analyses. Moreover, clinicians are more ready to respond to real-life success stories drawn from their own peer healthcare settings, rather than theoretical approaches "from the literature".

A four-step process to implementing a positive deviance approach to quality improvement has been proposed by Bradley[1], and is shown in Figure 2. This scheme will be used in the PRHI Positive Deviance initiative.

For this strategy to be effective, certain preconditions must be in place. First, a clinical performance measure must be selected that is relevant, reasonably universal, and reflective of the organization's culture and commitment to innovation. Second, the top performers on the selected measure must be identified using a widely respected (preferably public) data source. Third, the targeted "positive deviant" should be ready, willing, and able to submit to examinations by an "honest broker" experienced in quality improvement. Finally, the positive deviant must be willing to share their solutions broadly with the intent to "raise the bar" on quality for the healthcare setting.

Although positive deviance is not a new approach to quality improvement in health care, it is underutilized. Multiple barriers may be cited, including distrust of data, the cautiousness of organizations to reveal potentially strategic process methods, and the paucity of highly-skilled quality improvement specialists to properly conduct such analyses. However, when properly deployed, it can be a game-changing approach.

Figure 2: The positive deviance approach to healthcare quality improvement as proposed by Bradley et al.[1]

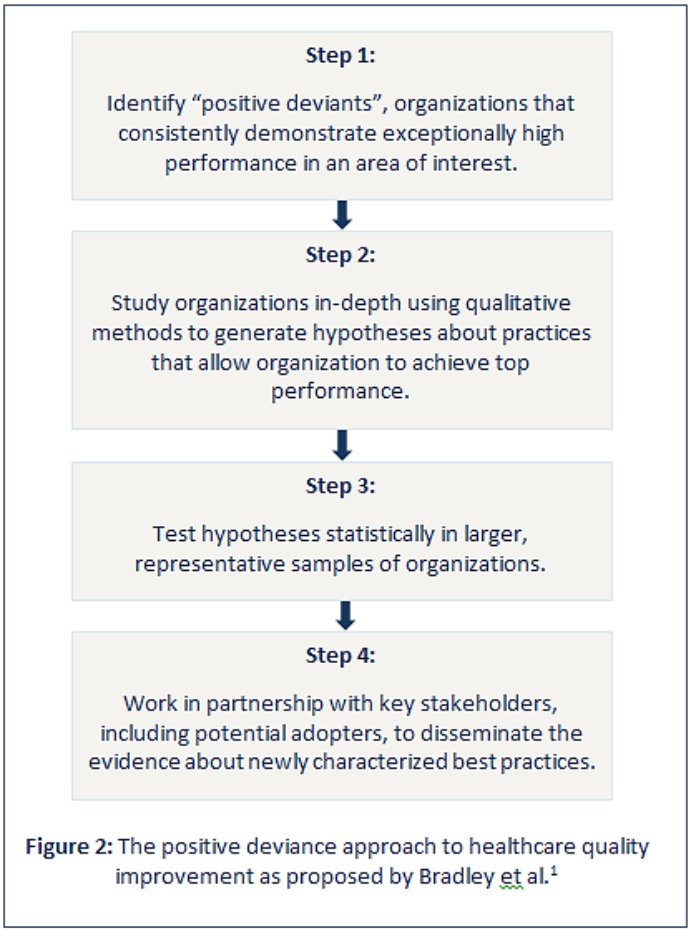


Figure 2: The positive deviance approach to healthcare quality improvement as proposed by Bradley et al.[1]

The Challenge of Quality Improvement in Long -Term Care

The nursing home industry has traditionally relied upon regulation, inspection, and public reporting to assure quality is maintained, however the impact has been limited[2]. Most facilities lack the process improvement infrastructure needed to drive meaningful reform, beginning with the leadership "culture of innovation" that has proved so critical in other health sectors.

The positive deviance approach offers a rapid and low-cost way to translate highly successful strategies from organization to organization. We feel that the elements for an effective roll-out of this concept are uniquely present in the western Pennsylvania region. As CMS moves toward market-based incentives with the expectation of increased quality in long-term care, we feel that this approach will prepare the community for planned payment reform while improving the care experience for residents and families.

Customizing the Positive Deviance Approach to Long-Term Care Settings

Using the step-wise approach to Positive Deviance outlined by Bradley[1], a sensible application of the method to long-term care facilities can be proposed, leveraging public-access data and applying PRHI's *Perfecting Patient Care℠* methodology:

- ***Step 1: Identify the Positive Deviants***

  There are multiple objective measures of nursing home quality[4], but the most widely used may be the CMS Nursing Home Compare website. By building a database from the standardized and mandatory MDS report submissions, Nursing Home Compare is comprehensive, objective, and reasonably timely. The reports use a star rating approach in three domains: health and fire safety inspection, staffing, and performance on a subset of 11 (out of 18) quality measures currently posted on Nursing Home Compare.

  It is a challenge to identify any single long-term care facility as "best". Organizations excel in different areas. However, there are almost invariably organizations that repeatedly achieve high scores on selected, high-value quality measures. Those facilities may not only have an extraordinary corporate commitment to quality, they also likely harbor an internal commitment to innovation that drives and sustains these gains.

  High-value measures for the positive deviance approach are those that are: (a) relevant to better resident care, (b) objective and transparent, and (c) lend themselves to examination, e.g., they are driven by an observable process. It is also useful if the measures carry an emotional dimension to underscore the impact and spark consumer interest. For example, from the list of 11 quality measures on Nursing Home Compare, favorable indicators include: "percent of residents experiencing one or more falls with major injury" and "percent of residents who self-report moderate to severe pain".

  The selected positive deviant must be a top performer and show a pattern of sustained excellence over time.

- ***Step 2: Application of Perfecting Patient Care℠ Analysis***

  Once a clear positive deviant is identified, the organization will be approached by the PRHI Positive Deviance study team to participate in the project. Participation is voluntary, and it is important that the examiners have the full cooperation of site leadership and reasonable access to the facility for observations. The examining team will focus on interviewing key staff, reviewing policies and procedures, and observing and mapping targeted work flows

  The goal of the analytics is to extract those specific elements that drive success – which might be a protocol, a key employee role, the novel use of technology, or a unique relationship between

staff and administration. The examining team will attempt to distill those findings into a concise list that could be used to help another organization achieve similar success.

- ***Step 3: Translation of "Best Practice" Methods***

  Successfully transplanting the best practice of a positive deviant into another willing organization would validate the practice strategy and also the spirit of collaboration that raises the bar on quality for the healthcare setting at-large. At minimum, the best practice should be proven translatable to at least one new partner before it is ready for dissemination.

  The investigating organization, through its initial data query of facilities to identify the positive deviants, will identify the ratings of lower performing facilities. The investigating organization would then select a target recipient of the positive deviant's approach, and deploy a project team to train that organization in the observed methods. A quality metric tracking system would be devised to validate the progress of the recipient facility to provide real time data.

- ***Step 4: Dissemination***

  Once the best practice has been proven exportable, it will be made available to other organizations in the region, and possibly beyond. Locally, PRHI can promote this dissemination on its website, through its multiple Champions programs, and possibly via pre-existing pathways such as the CMS Quality Improvement Network. PRHI is also developing a web-based communication and quality improvement tool called *Tomorrow's HealthCare™* which could house all relevant materials for organizations aspiring to replicate the positive deviance approach.

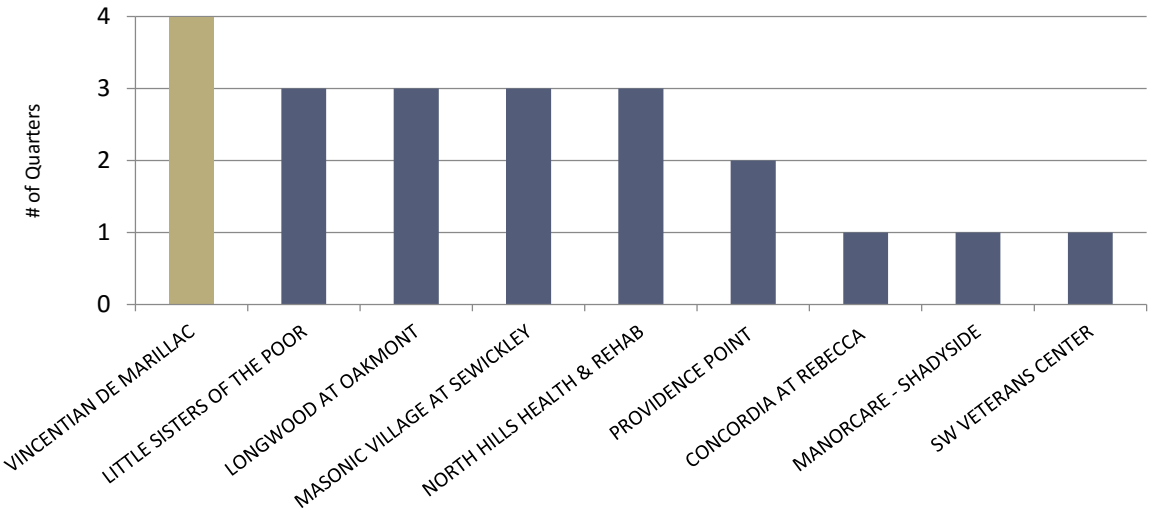
  PRHI also envisions potential statewide application of positive deviance to improving long-term care quality, either through collaboration with the Pennsylvania Department of Health, or in partnership with organizations such as the University of Pennsylvania or Quality Insights of Pennsylvania. Other potential partners are listed below. Lastly, as a founding member of the 40-member multistate Network for Regional Health Improvement, PRHI has a mature platform for dissemination across the United States, via the newly-launched Center for Healthcare Transparency.

A Positive Deviance Case Study: Prevention of Falls with Major Injury at Vincentian de Marillac

To demonstrate the application of the Positive Deviance approach in long-term care settings, the PRHI team selected the quality metric "Percent of long-stay residents experiencing one or more falls with major injury". Fall reduction was felt to be a compelling target, as it is of critical importance to residents and families, and often preventable by sound pre-emptive management strategies.

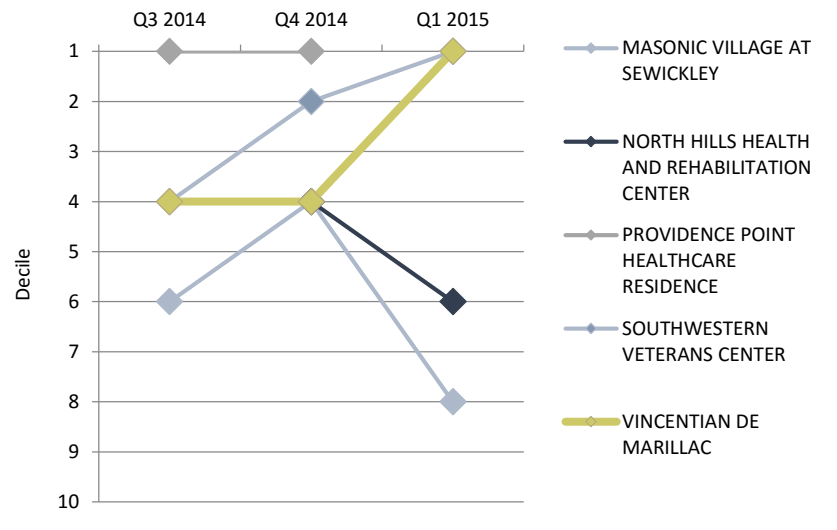
Identifying a nursing home positive deviant began with a September 2015 query of Nursing Home Compare. Of the 61 long-term care facilities in Allegheny County, many had attained five-star ratings in the Quality Measure domain. However, only one facility – Vincentian de Marillac – achieved five stars in Quality during all four quarters of the most recent measurement year (Figure 3).

Figure 3: Number of Quarters Facilities Achieved a 5-Star Quality Measure Rating, 2014-5, *Allegheny County,*
Source: CMS Nursing Home Compare (Accessed September 2015)



To explore the facility's performance on specific quality processes, the 11 components of the CMS Nursing Home Compare quality bundle were reviewed. One metric - "percent of residents with one or more falls with major injury" - was considered to be of particular relevance to the PRHI survey team. This indicator was felt to be amenable to observation and measurement, as well as of great importance to residents and families. Through this approach, Vincentian de Marillac was found to be ranked in the top 10% regionally in Q1 2015 (see Figure 4). They demonstrated remarkable improvement over the preceding quarters. This facility provided an opportunity to conduct a Positive Deviance approach to quality improvement.

Figure 4: Nursing Facility Fall Prevention Performance, by Allegheny Decile, by Quarter / Decile "1 " is the top 10%
Q3 2014 - Q1 2015, Source: CMS Nursing Home Compare



Vincentian de Marillac is a 50-resident long-term care facility located in the East End of Pittsburgh. It is part of the Vincentian Collaborative System, a continuum of care for seniors.

Analyzing Excellence: Structuring Site Visits in the Positive Deviance Approach

The PRHI project team received the endorsement of the CEO and leadership team of the Vincentian Collaborative System to participate in the Positive Deviance Initiative in October 2015. Over the course of three onsite visits, a team of three PRHI quality improvement specialists conducted interviews of key staff, reviewed policies and procedures, and observed and mapped targeted work flows.

Interview and observation findings were clustered into 5 areas:

- Leadership and Culture
- Staff Training and Education
- Adverse Event Prevention
- Adverse Event Response
- Organizational Learning and Sustainability

Leadership and Culture

The culture created and supported by senior leadership is key to any organization's success. By creating a safe environment for staff at all levels of an organization to share their suggestions and concerns in the context of helping that organization's mission, a unified learning community approach is achieved, allowing for innovation.

Vincentian Collaborative System is one such organization, with a senior leadership team that clearly defines and shares the organizational mission across all components of their senior communities. On their corporate website, Vincentian Collaborative System poses the question, "What makes us different?" Their response, "Our Sisters ventured into the world of healthcare dedicated to a fundamental respect for human life. Today, the Sisters inspire the work we do in our homes. We provide gentle care from the heart." This mission is demonstrated throughout their system by a clear and consistent communication of the vision from the CEO and leadership team (at all levels), a de-institutionalization approach, and gemba walks or "go and see" philosophy. Gemba walks enable "boots on the ground", allowing leadership to know staff, understand the work being done, and learn how they can support the front line in achieving quality resident care. The President and CEO spends time visiting with the residents and families to gain an understanding of their experience to ensure they are receiving the highest quality of care.

Vincentian Collaborative System's vision and mission conveys to the employees the organization's awareness that the healthcare landscape will change, but their imperative is to remain committed to preserving the dignity of those for which they care. As the President and CEO states in their newsletter, *Insights*, "We are committed to changing the landscape of what it means to grow older with dignity in America." One way Vincentian de Marillac has accomplished this is through higher-than-average staff to resident ratios. In addition to contributing to high staff satisfaction, this aids in providing quality care, including low fall rates.

They recognize the specialized need of their community and take to heart their "close-knit family-like environment" and "individually designed health-related programs, therapy services and activities" which are rich contributors to the quality care of their residents. Their Nursing Home Administrator and acting Director of Nursing follow the same approach as the President and CEO, instilling the corporate mission and values into daily work. At Vincentian de Marillac, in particular, their smaller-sized, 50-resident facility has enabled a family-like atmosphere in which staff know every resident and their family members.

Throughout the staff interviews, it was clear that Vincentian de Marillac promotes a culture of "all eyes on deck", meaning every staff member (from environmental services to dietary to nursing) is empowered to prevent falls or the possibility of harm to residents. The ability to ensure the safe care of their residents is a very powerful and necessary component of organizational success and staff satisfaction. This culture was further validated during observations. For example, a housekeeper was talking with one of the residents who was confused and mistakenly believed she had fallen. Staff awareness of resident's behavioral patterns and routines allowed the housekeeper to quickly identify a problem. The housekeeper immediately brought this concern to a nursing staff member, who promptly investigated the situation, and after affirming that the resident was unharmed, at cognitive baseline, and had probably not fallen, the nursing staff member went on to ease the resident's concerns.

Another strategy that helps prevent falls at Vincentian de Marillac is consistent staff assignments. Consistent assignment is when residents have the same day-to-day caregivers, enabling residents and caregivers to really get to know one another. Familiarity of resident's physical abilities and their routines allows staff to more efficiently prevent falls. This was witnessed during observation, when staff reacted proactively to a resident who was prone to wander. Not only were they quick to prevent the resident from straying too far, but their knowledge of the resident's preferences allowed them to easily calm the resident: she was offered a favorite snack to ease her anxiety.

Staff satisfaction in their role to enact appropriate change and a culture of safety and dignity for residents, families, and staff has led to increased staff retention. For staff, the average length of employment at Vincentian De Marillac is 8.4 years. This longevity, accompanied by small facility size, consistent resident assignment, safety culture, and clear alignment with the mission have enabled them to achieve key quality outcomes, such as low fall rates. This aligns with the idea of applying *Perfecting Patient Care* [SM] methodology as a management strategy at the leadership level to help the organization achieve their goals of continuous improvement.

Staff Training and Education

Vincentian Collaborative System prides itself on its reputation for excellence in services provided to their residents and employees. As found on their website, https://vcscareers.silkroad.com/, "The **HEART** of who we are encompasses our values and forms the foundation on which we perform work and conduct ourselves". They embrace the following practices:

- ***H**ave Fun*. Come to work each day with energy, ready to make a difference in the lives of others.
- ***E**veryone works together*. Share a common goal when we work together to provide the highest level of care and services. We listen in a non-judgmental way and respond in a respectful manner that enhances the self-esteem of others.
- ***A**lways do the right thing*. Strive for the best in all we do, knowing that this means doing the right thing at the right time.
- ***R**each to go above and beyond*. Continually assess the present to modify and shape the future. Every employee is responsible to make things happen – employing the creative problem solving to go above and beyond.
- ***T**reat everyone with care and understanding*. Care for people from the heart by taking time to nurture the best in every one. Seek to understand others and respect differing points of view.

In order to be successful, frontline staff must be prepared to do their jobs. This includes specific levels of training outside the organization as a qualification for employment. As many in the healthcare industry know, theory and textbooks serve their purpose, but much of the work is learned on the job through experience and mentoring from peers and supervisors.

One example of on-the-job training at Vincentian de Marillac is proper body mechanics education both at orientation (within 2 days of hire) and as part of annual competencies. The Manager of Rehabilitation provides 20-30 minutes of one-on-one staff education that is directly applicable to their daily work. Topics covered include physical and physiological changes that occur in older adults, ideas for positioning residents, and techniques for lifts and transfers. Vincentian de Marillac believes in providing

staff protected time to engage in education and problem solving opportunities to increase the safety of residents and staff.

Frontline staff attend one mandatory on-site training per month. While many of the topics are required by regulations, Vincentian de Marillac uniquely designates two months as “nurse’s choice” (see Table 1). These months, staff nurses determine a topic of interest and someone volunteers to present. Examples include clinical, operational, or customer service orientated education. Vincentian Collaborative System provides opportunities for all staff to attend off-site conferences. The organization as a whole makes it a priority to enable staff to attend training sessions.

Table 1: Sample Training Schedule at Vincentian de Marillac

MONTH	TOPIC
January	Dementia Training
February	Infection Control
March	Mission
April	Resident Rights / HIPAA
May	Disaster Preparedness / Accident Prevention
June	Abuse Prevention / Reporting
July	Nurse’s Choice
August	Fire Safety
September	Nutrition / Resident Centered Dining
October	Annual Corporate Compliance
November	Advance Directives / POLST
December	Nurse’s Choice

As previously mentioned, staff retention at Vincentian de Marillac is impressive. Turnover still occurs, of course, and they occasionally require the use of temporary agency staff. This in turn calls for rapid staff training. One way Vincentian de Marillac has managed this challenge is by improving their staffing model to increase communication between shifts. Shifts now overlap by 30 minutes allowing, CNAs to round room-to-room to discuss pertinent resident information \, such as functional status for activities of daily living (ADLs), transfers, and dining preferences. During this overlap, regular staff (those that are employed by Vincentian de Marillac) provide agency staff with a brief orientation to the facility layout, services, and processes. This form of proactive communication decreases problems that tend to occur during a working shift.

Current federal regulations require each nursing facility to maintain a formal Quality Assessment and Assurance (QAA) Committee. Unfortunately, facilities tend to function reactively rather than proactively, waiting until cited by surveyors, and then developing a plan of correction to satisfy the regulation. Under the Patient Protection and Affordable Care Act of 2010, proposed new regulations will now require facilities establish and implement Quality Assurance and Performance Improvement (QAPI) programs. Expected changes include developing a QAPI plan and policy, conducting Process Improvement Projects (PIPs) and measuring their impact, utilizing data-driven quality improvement in all care areas, maintaining documentation (QAPI plan, Plan Do Study Act cycles, PIP), and conducting staff education

on quality improvement. In 2013, Vincentian de Marillac began the QAPI journey by educating staff and completing the self-assessment, which they continue to revise annually. An open line of communication is maintained between leadership and frontline staff– explaining the "why" behind any change rather than a "just do it" attitude. This contributes to their informal problem-solving culture; problem solving is everyone's responsibility. During meetings, staff speak freely about concerns. While there is a formal structure to reporting a fall, the facility believes that every staff member is empowered to employ solutions in real-time. For example, when a CNA noticed a resident's wheelchair was not functioning correctly, she immediately alerted the Occupational Therapy department. The problem was determined to be a missing bolt. Therapy contacted maintenance who promptly replaced the bolt, preventing potential resident injury. All staff are encouraged to call for a therapy screen if changes related to ADLs, transfers, mobility and/or positioning are observed.

Adverse Event Prevention

1. Environmental Safety:

The nursing home industry is one of the most regulated industries in America, second only to the nuclear industry. Environmental safety plays an important role in adverse event prevention. Federal Regulation §483.70, Physical Environment, states "The facility must be designed, constructed, equipped, and maintained to protect the health and safety of residents, personnel and the public." Vincentian de Marillac not only meets this regulation, it goes above and beyond to create a safe environment for those who live and work there.

Throughout the facility we observed "all hands on deck" when it came to cleanliness and clear egresses. All hallways and corridors were clear of excess equipment during our observations of the facility. The housekeeping department maintains consistent assignments, which allows staff members to know their residents' routines and patterns. Housekeeping staff are an integral part of the dining program, setting out placemats, utensils, and any necessary adaptive devices.

Vincentian de Marillac has created a home-like atmosphere by controlling excess noise that may normally be present in a facility. Their discrete call system, the DEVI 9000 from CISCOR, eliminates excess bells or alerts. CNAs carry walkie-talkies that alert them when they need to respond. Mounted on hallway entrances are modest digital boards that display which resident's room is requesting assistance. This system lends to the quiet living-space alleviating the potential stress felt by residents that may result in disruptive behavior

During staff interviews, several informal mistake-proofing approaches to fall prevention were described. These included the ability to program bed alarms –alarms triggered by movement and used on high-risk patients – with a different tone or song. When staff hear that particular tone or song, they know which resident needs assistance. Another example is a strategically-placed chair that allows a high fall risk resident to stop and take a break while safely wondering the neighborhood. Staff trialed this when plans to relocate the resident to a different room did not materialize, as the move was thought to be detrimental, causing undue stress for the resident.

2. Risk Identification:

All residents in the facility are considered fall risks. A resident is identified as a high fall risk based on his or her score on the validated BRiGGS Healthcare Fall Risk Evaluation tool (Appendix A). A score of 10 or greater indicates a high fall risk and triggers implementation of a fall prevention care plan. Per policy, an individualized care plan will be implemented for the resident to address the preventative steps needed and suggested by the fall sub-committee (Appendix B). The fall sub-committee has a standing agenda where all residents at risk are reviewed. Based on our observations, frontline staff are participatory in the committee, suggesting practical interventions and approaches to fall prevention. Residents are reassessed for fall risk quarterly during the Minimum Data Set (MDS) evaluation, and also post- fall. Care plans are also updated after each fall and recorded on the 24 Hour Report.

Though a formal process for risk identification is in place, staff members are encouraged to identify high-risk residents at any given time. During our staff interviews, we often heard, "We are all responsible for assessing our residents." Staff members identify the small size of the facility as a key factor, as it allows everyone to know every resident and be able to quickly notice changes or high fall risk behaviors.

Family members are also engaged in the risk-identification process. Informally, family members will often share their thoughts related to falls or assist in fall prevention. For example, one resident's wife alerts staff members when she is leaving the facility and communicates his status to the staff, so they are aware of any potential red-flags.

Formally, family members are invited to participate in the initial and ongoing care plan meetings with the Interdisciplinary Team. Family members are also engaged when a resident's status changes or when a fall occurs.

3. Risk Communication

There are several mechanisms Vincentian de Marillac employs for dignified and discrete communication that a resident is at high risk for a fall. One primary way this is communicated between direct caregivers is through their peer shift-to-shift report. Staff members follow a checklist, which includes whether or not the resident is a high fall risk. When a resident is newly identified as a high fall risk, staff will go to the resident's room together and discuss any measures implemented to prevent falls from occurring. Staff members also communicate high fall risk residents during staff huddles, a monthly fall subcommittee meeting, and through post-fall documentation in the resident's medical record.

Ancillary staff members, including housekeeping and dietary, are also engaged in risk communication. A member from the housekeeping department is part of the monthly fall subcommittee meeting. We also observed several informal conversations between caregiving and dietary staff concerning changes with a resident. For instance, one dietary staff member informed a nurse that a resident was complaining of pain in her legs – they were concerned the resident could fall if she tried to ambulate. The nurse then assessed the resident to see what, if any, changes were present. This example highlights the "all eyes on deck" culture we observed and heard staff echo during our interviews. It is the sense that all members of the team, whether direct-care or ancillary, are responsible for preventing falls and communicating changes with residents.

Adverse Event Response

Immediately after a fall, a series of pre-planned, coordinated processes are triggered to fully understand the reasons for the event, to heighten awareness of the issue facility-wide, and to implement action steps to assure no further events occur. Following the event, staff are guided by the Fall Assessment Policy (Appendix B), which is available in every neighborhood.

The standard procedure followed when a resident sustains a fall can be seen below (Figure 5 & 6). When a Licensed Practical Nurse (LPN) is the scheduled nurse, there is collaboration with a Registered Nurse (RN) based on Pennsylvania state regulation §21.145.

Figure 5

Figure 6

Figure 7 provides a visual summary of their post fall processes.

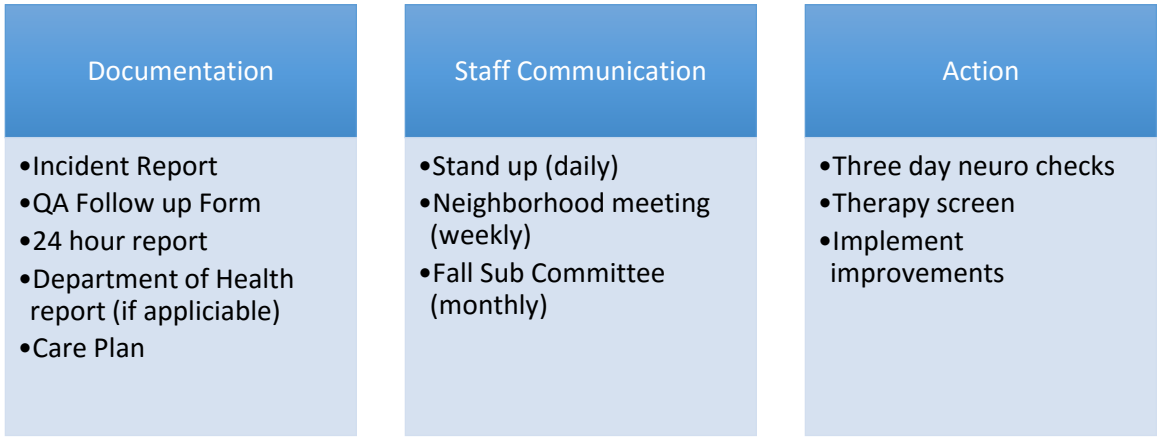


Figure 7

Whereas staff response to a fall is guided mainly by protocol, staff members are encouraged to go beyond policy in assuring the safety of residents – promptly calling upon other departments to solve safety problems, for example Real-time problem-solving, similar to the Lean concept of "pulling the andon cord", is valued at Vincentian de Marillac.

As previously noted, all resident falls (with or without major injury) are reviewed in the monthly falls subcommittee meeting. While there is no formal root cause analysis, they discuss what happened, why it happened, what immediate improvements were made to prevent this from happening in the future, and any additional fall prevention suggestions from the committee. From here, information is disseminated to the rest of the staff through daily morning meetings and weekly neighborhood meetings.

Organizational Learning and Sustainability

Organizations with a consistent and clearly-defined mission, led by visible leadership and supported by a culture of safety, enable a learning community to emerge. This community becomes a knowledge network for sharing lessons learned encouraging staff growth and effective problem solving.

Vincentian Collaborative System prides itself on treating everyone with dignity–their residents and families and each other as part of the overall organizational mission. In doing so, they have created an environment where they practice what they preach at all levels of their system, from front-line management to the President and CEO. A passion for caring with dignity is exemplified visually in each facility through posted signs, communication boards, quarterly newsletters, and leadership gemba walks. The high visibility of leadership at Vincentian Collaborative System's facilities carries their consistent message and demonstrates the value they place on their employees.

The Nursing Home Administrator has also implemented several other measures as a way to support communication and organizational sharing. Weekly, during both the daylight and afternoon shifts, she meets with the staff on each neighborhood to talk about corporate and facility-specific updates. This is also a time for her to hear feedback from staff, learning of any challenges or changes they are facing. To ensure she connects with the night shift, she initiated a weekly 2 am phone call, aimed at accomplishing the same communication and feedback loops.

Being a learning organization means you seek and welcome opportunities for improvement. Vincentian Collaborative System embraces this tenet. Their organization welcomed PRHI in, expecting we may find areas of improvement, and eager to hear what we would learn. That is a learning organization, one that is adaptable to change.

The Vincentian Collaborative System consists of three separate nursing facilities, all in the Pittsburgh area. Thus, concepts and innovations developed and trialed in one location can be spread to the other two sites. For example, Vincentian Home (the largest of the three facilities), has successfully piloted a

new technology that allows for virtual interdisciplinary and resident/family communication. They plan on expanding it both Vincentian de Marillac and their medium-sized facility, Marian Manor. During observations, the corporate Director of Rehabilitation was on site to observe their recently-initiated clinical rounds. This Director had observed similar clinical rounds at Marian Manor, where trialing originally began. She was able to learn and share experiences from both facilities to ultimately work toward a standard approach to conducting the clinical rounds system-wide.

In the spirit of a learning organization, the Vincentian de Marillac team self-identified the need to capture more formalized documentation of problem identification and solution implementation and not solely rely on their close-knit environment.

These descriptions highlight just a few of the examples of compassionate care that were either observed or shared by staff. The culture they live by creates, in itself, a model for sustainability and adaptability. It is also a reflection of staff retention, leadership with "boots on the ground" to support the valuable work of staff caring out the mission.

Drivers of Success in Resident Fall Prevention

Based upon the policy reviews, interviews, and on-site observations PRHI conducted, 10 specific factors were identified as drivers of this organization's success in preventing resident falls with major injury. The ten drivers with supporting information are listed in Table 2, and summarized in the Executive Summary in Figure 1:

Table 2: Drivers of Successful Fall Prevention in Long-Term Care Facilities

Drivers	Description
1. Favorable Staffing Ratios	• CNA:Resident is 1:8 • RN/LPN:Resident is 1:12-16

2. High Visibility of Leadership	• CEO is often seen out on the floors and addresses staff by name (gemba walks "go and see" philosophy)
	• Knows and understands the work being done
	• Nursing Home Administrator/Director of Nursing observed on the neighborhoods where they interact daily with the staff and residents. (gemba walks)
	  ○ Immediate follow-up on concerns brought up during daily morning meeting
	  ○ Checking-in with staff when there is a call-off and thanking them for their help
	  ○ Social visits with residents and families

3. Deep and Consistent Connection to the Organizational Mission and Values	• Orientation – mission woven throughout curriculum • Mission groups meet every 2 months to talk about corporate values • Visual reminders of mission displayed throughout facility

4. Investment in Staff Growth and Development	• Orientation and annual body mechanics training – specific to job responsibilities
	  ○ Provide real-time education and coaching where the work happens
	• "Teachable Moments" used as learning opportunities
	• One mandatory in-service per month on-site
	  ○ "Nurse's Choice": two months out of the year designated for nurses to identify and present on their topic of choice

5. Warm Staff Hand-offs	• Staffing model accommodates increased communication between shifts
	  ○ Shifts overlap 30 minutes.
	  ○ Room-to-room rounding to discuss each resident's status (functional status, appointments, special needs)
	  ▪ If awake: Introduce on-coming staff

6. Pulling the Andon Cord: Front-line Staff Empowerment	• Identify and call out problems • Complete real-time problem solving • Order a rehabilitation screen consult
7. Optimize the Environment	• Clear egress and cleanliness throughout the facility • Minimal gathering of staff and/or residents in the hall • Low noise volume, including discrete call light system
8. All Eyes on Deck Culture	• All staff members interact with all residents • Sense of responsibility to prevent falls embedded in culture • Staff ratio allows relationship development between residents and staff
9. Organizational Commitment to Quality Improvement	• Staff encouraged to use creative mistake-proofing techniques for fall prevention • NHA ensures available funds for recommended equipment • Staff given protected time to attend committee meetings and educational offerings
10. Value Staff Retention	• Average years of service is 8.4 years • Consistent assignment • Ratio of staff: residents

Summary

Vincentian de Marillac has achieved singular and sustained success in the prevention of falls with major injury among its nursing home residents. Its blend of cultural and procedural drivers of successful fall prevention, promoted by highly engaged leadership, creates a safe setting for residents and an empowered workplace for staff. It may serve as a model for other long-term care organizations that face challenges with this single issue.

The ten drivers of success outlined above are offered as a process improvement pathway to replicate the success of Vincentian de Marillac in other settings. In a true positive deviance experiment, these drivers would be validated by transplanting them into another organization, and seeing whether the

impact on resident safety is reproduced. As such, an approach would take several measurement quarters before any effect could be observed sharing the first phase of this approach is in the best interest of the community.

Bibliography

[1]Bradley EH, Curry LA, Ramanadhan S, et al. Research in action: using positive deviance to improve quality of health care. *Implementation Science*. 2009:4;25. http://www.implementationscience.com/content/4/1/25.

[2]Werner RM and Konetzka RT. Advancing nursing home quality through quality improvement itself. Health Affairs. 2010;29:81-86. http://content.healthaffairs.org/content/29/1/81.full.

[3]Berlowitz DR, Young GJ, Hickey EC. Quality improvement implementation in the nursing home. Health Serv Res. 2003;38:65-83. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1360874/.

[4]Castle NG, Ferguson JC. What is nursing home quality and how is it measured? Gerontologist. 2010;50:426-442. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2915498/.

Acknowledgements

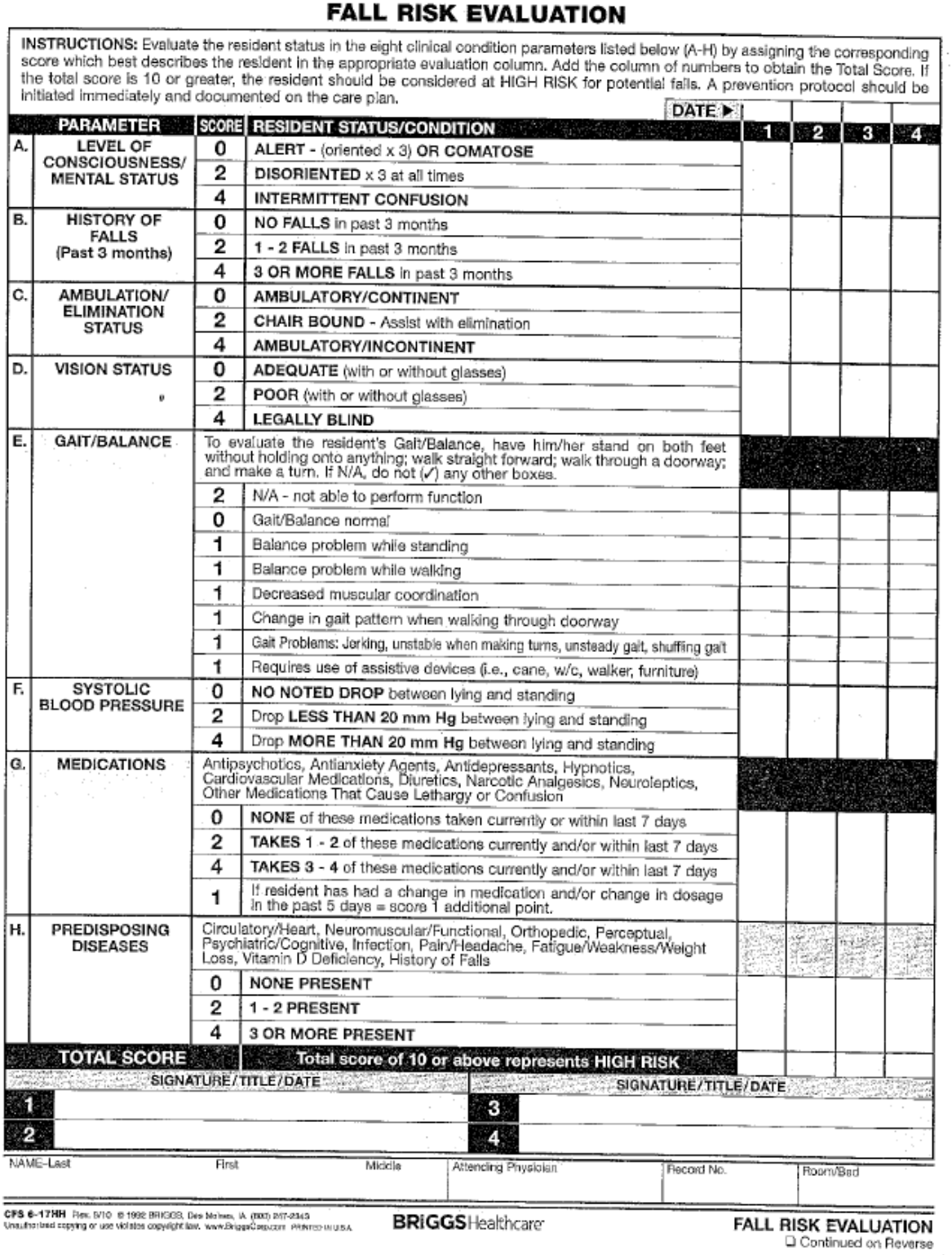
The authors wish to acknowledge the leadership of the Vincentian Collaborative System, and the caring staff of Vincentian de Marillac. The compassionate environment they create for their residents was an inspiration. Both groups shared openly and eagerly in creating this document, and we at the Pittsburgh Regional Health Initiative are in their debt.

About Pittsburgh Regional Health Initiative

Pittsburgh Regional Health Initiative (PRHI) is a non-profit regional health improvement collaborative which has been facilitating quality enhancement efforts since 1997. It has trained over 5,000 providers in its proprietary quality improvement strategy, *Perfecting Patient Care*^{SM}, and it supports teams of coaches and specialists to transform care at the frontline. PRHI has a deep portfolio in consumer engagement, health services research, system redesign, and communication. In particular, PRHI has been a national leader and staunch advocate of long term care reform since its founding.

PRHI is a prime grantee of the CMS Innovation Center, and has partnered with Quality Insights, our regional CMS quality improvement organization (QIO), in the national Quality Improvement Network (QIN) program. As a prime contractor in the new CMS Qualified Entity program, PRHI is charged with creating cost and quality reports for Western Pennsylvania. Lastly, PRHI is a founding member of a national consortium of public reporting and quality improvement organizations, the Network for Regional Health Improvement (NRHI).

Appendix A: Fall Risk Evaluation Form



FALL RISK EVALUATION

INSTRUCTIONS: Evaluate the resident status in the eight clinical condition parameters listed below (A-H) by assigning the corresponding score which best describes the resident in the appropriate evaluation column. Add the column of numbers to obtain the Total Score. If the total score is 10 or greater, the resident should be considered at HIGH RISK for potential falls. A prevention protocol should be initiated immediately and documented on the care plan.

	PARAMETER	SCORE	RESIDENT STATUS/CONDITION	DATE ▶ 1	2	3	4
A.	LEVEL OF CONSCIOUSNESS/ MENTAL STATUS	0	**ALERT** - (oriented x 3) **OR COMATOSE**				
		2	**DISORIENTED** x 3 at all times				
		4	**INTERMITTENT CONFUSION**				
B.	HISTORY OF FALLS (Past 3 months)	0	**NO FALLS** in past 3 months				
		2	**1 - 2 FALLS** in past 3 months				
		4	**3 OR MORE FALLS** in past 3 months				
C.	AMBULATION/ ELIMINATION STATUS	0	**AMBULATORY/CONTINENT**				
		2	**CHAIR BOUND** - Assist with elimination				
		4	**AMBULATORY/INCONTINENT**				
D.	VISION STATUS	0	**ADEQUATE** (with or without glasses)				
		2	**POOR** (with or without glasses)				
		4	**LEGALLY BLIND**				
E.	GAIT/BALANCE		To evaluate the resident's Gait/Balance, have him/her stand on both feet without holding onto anything; walk straight forward; walk through a doorway; and make a turn. If N/A, do not (✓) any other boxes.				
		2	N/A - not able to perform function				
		0	Gait/Balance normal				
		1	Balance problem while standing				
		1	Balance problem while walking				
		1	Decreased muscular coordination				
		1	Change in gait pattern when walking through doorway				
		1	Gait Problems: Jerking, unstable when making turns, unsteady gait, shuffling gait				
		1	Requires use of assistive devices (i.e., cane, w/c, walker, furniture)				
F.	SYSTOLIC BLOOD PRESSURE	0	**NO NOTED DROP** between lying and standing				
		2	Drop **LESS THAN 20 mm Hg** between lying and standing				
		4	Drop **MORE THAN 20 mm Hg** between lying and standing				
G.	MEDICATIONS		Antipsychotics, Antianxiety Agents, Antidepressants, Hypnotics, Cardiovascular Medications, Diuretics, Narcotic Analgesics, Neuroleptics, Other Medications That Cause Lethargy or Confusion				
		0	**NONE** of these medications taken currently or within last 7 days				
		2	**TAKES 1 - 2** of these medications currently and/or within last 7 days				
		4	**TAKES 3 - 4** of these medications currently and/or within last 7 days				
		1	If resident has had a change in medication and/or change in dosage in the past 5 days = score 1 additional point.				
H.	PREDISPOSING DISEASES		Circulatory/Heart, Neuromuscular/Functional, Orthopedic, Perceptual, Psychiatric/Cognitive, Infection, Pain/Headache, Fatigue/Weakness/Weight Loss, Vitamin D Deficiency, History of Falls				
		0	**NONE PRESENT**				
		2	**1 - 2 PRESENT**				
		4	**3 OR MORE PRESENT**				
	TOTAL SCORE		**Total score of 10 or above represents HIGH RISK**				

SIGNATURE/TITLE/DATE		SIGNATURE/TITLE/DATE	
1		3	
2		4	

NAME–Last	First	Middle	Attending Physician	Record No.	Room/Bed

CFS 6-17HH Rev. 5/10 © 1992 BRIGGS, Des Moines, IA (800) 247-2343
Unauthorized copying or use violates copyright law. www.BriggsCorp.com PRINTED IN U.S.A.

BRIGGS Healthcare

FALL RISK EVALUATION

❑ Continued on Reverse

Appendix B: Vincentian de Marillac Fall Prevention Policy

Vincentian de Marillac
Policy and Procedures
Fall Assessment Policy

Policy: Residents will be identified as to: their risks for falls, the precipitating events leading up to falls that do occur which is intended to target fall patterns, and interventions needed to reduce their incidence of further falls.

Definitions: The term falls includes incidents such as slipping, sliding, or pitching forward out of a chair of bed and includes both accidental falls and falls resulting from being pushed by another individual. Falls can occur while walking, standing , or transferring to bed, chair, or toilet.

Procedure:

1. Residents will be assessed for fall risk on admission to the facility using the fall risk assessment form.
2. All residents in the facility are considered fall risk.
3. Individualized Care Plan will be implemented for the resident to address the preventative steps needed and suggested by the Fall Committee
4. All falls are investigated by the ADON and the plan for prevention is reevaluated. Fall patterns are also monitored at the time of investigation.
5. Residents will be reviewed quarterly with their MDS assessments.
6. Physicians and responsible parties are notified of al falls when they occur.
7. Falls will be reported on at the Quality Assurance meetings quarterly.

Original 10/00
Revised 8/04

109.