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An Evaluation of Virginia Gold: A Medicaid Program to Improve Nursing Facility Quality of Care

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Abstract

A qualitative case study design employing focus groups was used to evaluate certified nursing assistant (CNA) (n = 26) and resident (n = 30) perceptions of the Virginia Gold Quality Improvement Program, a Medicaid funded 2-year quality improvement intervention piloted in five nursing facilities. As part of the program, the nursing facilities implemented quality improvement projects to develop supportive work environments in an effort to reduce CNA turnover and improve quality of care. Overall, the focus group participants viewed Virginia Gold positively and reported that CNA turnover decreased, while care quality improved during the program. These findings are supported by a previous Virginia Gold evaluation as well as by the results from a quantitative analysis of nursing facility CNA turnover and quality of care data and interviews with selected nursing facility management staff (n = 7) 1-year following the program's culmination. A key finding from the management interviews is that the quality improvement projects became self-sustaining over time allowing all five nursing facilities to continue the projects without state funding.

Keywords

Medicaid, Nursing Facility, Work Environment, Quality Improvement, Certified Nursing Assistants, Program Evaluation, Qualitative Case Study Design, Focus Groups

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The findings and conclusions in this study represent only the authors' opinions and do not necessarily represent the views of the Virginia Department of Medical Assistance Services (DMAS). While staff members at DMAS reviewed the report, their review in no way represents an endorsement of the content, analysis, or findings of the study.



An Evaluation of *Virginia Gold*: A Medicaid Program to Improve Nursing Facility Quality of Care

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A qualitative case study design employing focus groups was used to evaluate certified nursing assistant (CNA) ($n = 26$) and resident ($n = 30$) perceptions of the Virginia Gold Quality Improvement Program, a Medicaid funded 2-year quality improvement intervention piloted in five nursing facilities. As part of the program, the nursing facilities implemented quality improvement projects to develop supportive work environments in an effort to reduce CNA turnover and improve quality of care. Overall, the focus group participants viewed Virginia Gold positively and reported that CNA turnover decreased, while care quality improved during the program. These findings are supported by a previous Virginia Gold evaluation as well as by the results from a quantitative analysis of nursing facility CNA turnover and quality of care data and interviews with selected nursing facility management staff ($n = 7$) 1-year following the program's culmination. A key finding from the management interviews is that the quality improvement projects became self-sustaining over time allowing all five nursing facilities to continue the projects without state funding. Keywords: Medicaid, Nursing Facility, Work Environment, Quality Improvement, Certified Nursing Assistants, Program Evaluation, Qualitative Case Study Design, Focus Groups

Introduction

High turnover of caregiving staff in nursing facilities and poor quality of care have been reoccurring matters of public concern, policy debate, and research for several decades (Eaton, 2000; Mukamel et al., 2012; Rosen, Stiehl, Mittal, & Leana, 2011; Walshe, 2001). Since the 1970s, studies have reported average annual turnover rates for registered nurses, licensed practical nurses, and certified nursing assistants (CNAs) ranging from 55 to 100%, with turnover rates as high as 400% for CNAs in some facilities (Castle & Engberg, 2005; Mukamel et al., 2009). Because CNAs function as “frontline” caregivers, the effects of high turnover among these workers are particularly pervasive and include compromised quality of care, high replacement costs, lost productivity, and low morale (Stearns & D’Arcy, 2008). Due to the important role that CNAs play in the nursing facility care continuum, nearly all state Medicaid agencies and departments of aging consider CNA turnover to be a major workforce issue (Castle, 2008). In response, various interventions have been implemented to reduce CNA turnover and improve quality of care in nursing facilities (Lehning & Austin, 2010; Mukamel et al., 2009).

The present study was undertaken to evaluate one such intervention, entitled the *Virginia Gold* Quality Improvement Program, implemented by the Virginia Department of Medical Assistance Services (i.e., Virginia Medicaid) in five nursing facilities. The evaluation had three unique features. First, the study represented a longitudinal qualitative evaluation of *Virginia Gold* because it was a continuation of an earlier investigation (Craver & Burkett, 2012). Second, the evaluation assessed the overall influence of *Virginia Gold* on turnover and care quality from the perspectives of both CNAs and residents and supplemented this assessment with quantitative data. Finally, the evaluation examined efforts

by managers at the nursing facilities to continue the quality improvement projects one year following *Virginia Gold's* culmination.

Background

Nursing facility care is labor intensive and time consuming because the individuals who reside in these facilities are mostly frail adults with cognitive and/or physical disabilities that become more individualized as they age. Complicating this further is that many residents have at least one comorbid chronic disease along with an accompanying set of unique social circumstances that require continuous attention if they are to achieve an acceptable quality of life (McConnell, Lekan, & Corazzini, 2010). Within nursing facilities, CNAs provide approximately 80% of the paid care (e.g., measuring vital signs) and personal assistance (e.g., assistance with eating, bathing, and dressing) that residents need (Castle, 2012). While they perform an important role in the nursing facilities, many CNAs experience stressful working conditions that require a considerable amount of emotional labor on a near-constant basis, receive low pay and limited benefits, and have few opportunities for career advancement or alternative employment (Eaton, 2000; Morgan & Konrad, 2008). Not surprisingly, these conditions contribute to unstable workforce recruitment and retention problems for nursing facilities that manifest themselves in high CNA turnover rates (Stearns & D'Arcy, 2008).

Many observers view high CNA turnover as a significant public policy issue that will likely increase as the demand for nursing facility services intensifies due to the growing number of aging baby boomers in the United States (Dill, Morgan, & Konrad, 2010; Lehning & Austin, 2010; Rosen et al., 2011; U.S. Department of Health and Human Services [USDHHS], 2011). High CNA turnover has several far-reaching consequences, such as increased costs for nursing facilities, but the most serious consequence is the potential for adverse health outcomes for residents because high turnover can influence quality of care through several mechanisms. That is, turnover can weaken standards of care in nursing facilities, interfere with continuity of care, cause psychological distress for some residents, increase the number of inexperienced caregivers in nursing facilities, and divert limited funds from needed care activities (Castle, 2013; Castle & Engberg, 2005).

Various factors contribute to the instability of the CNA workforce, but research indicates that job dissatisfaction is a major cause (Sengupta, Harris-Kojetin, & Ejaz, 2010). Because many residents are highly dependent on CNAs for their physical, mental, and social needs, CNA job satisfaction and work performance likely have the greatest influence on quality of care (Burgio, Fisher, Fairchild, Scilley, & Hardin, 2004; Castle, 2010). The stability of the CNA workforce is further compromised by its socioeconomic vulnerability because the workforce is composed mostly of unmarried women in their late 30s with limited education who live in families with incomes below 150% of the poverty level (Dill, Morgan, & Konrad, 2010; Morgan & Konrad, 2008; USDHHS, 2011).

A number of policy and practice interventions have been implemented by states and other organizations aimed at reducing chronic CNA turnover and improving quality of care (Dill, Morgan, & Konrad, 2010; Lehning & Austin, 2010; Mukamel et al., 2009; Paraprofessional Healthcare Institute [PHI], 2005). Examples include culture change initiatives that seek to enhance working conditions and quality of care by emphasizing CNA empowerment and job satisfaction (Coleman et al., 2002); wage pass-through policies where a percentage of state Medicaid reimbursement rates are used to increase staff wages and/or benefits (Stone, 2004); career-advancement programs that train CNAs to assume additional job-related responsibilities (PHI, 2005); workforce development programs that provide CNAs with continuing education, supervisory training, and retention contracts (Morgan & Konrad,

2008); and work redesign interventions that seek to improve staffing efficiency (Castle & Bost, 2009).

While there is evidence that some interventions have been effective at improving CNA turnover and quality of care, conclusive evidence on their effectiveness is lacking because many were not rigorously evaluated (Brannon, Zinn, Mor, & Davis, 2002; Dill, Morgan, & Konrad, 2010; Harris-Kojetin, Lipson, Fielding, Kiefer, & Stone, 2004; Lehning & Austin, 2010; Tsoukalas et al., 2006). As a result, policymakers, providers, worker and consumer groups, and other interested stakeholders do not have a strong evidence base for developing interventions that effectively address this problem. Given the enormity of the challenge of ensuring that an adequate supply of well-trained CNAs are available to provide quality nursing facility care to increasing numbers of Americans, such evidence is sorely needed. By using accepted qualitative research methods to evaluate one such intervention in Virginia, the current study adds to the evidence-based literature on CNA workforce development and quality improvement interventions. The evaluation has immediate relevance because the demand for nursing facility and other forms of long-term care services is expected to increase in the coming years as the national trends in population aging continues (Bowblis, Meng, & Hyer, 2013).

Virginia Gold Overview

In 2007, the Virginia State Legislature directed Virginia Medicaid to establish a 2-year nursing facility quality improvement program. To comply, Virginia Medicaid formed a stakeholder advisory committee to design a quality improvement program for the state's nursing facilities using civil money penalty (CMP) funds, which are fines collected from nursing facilities that fail to meet federal and state quality of care standards. The end result of the committee's work was the *Virginia Gold* Quality Improvement Program, which became operational on September 1, 2009.

To implement *Virginia Gold*, Virginia Medicaid solicited applications from licensed, Medicare/Medicaid-certified nursing facilities through a competitive process in April 2009. Twenty-eight nursing facilities (out of approximately 278 facilities in Virginia) submitted applications indicating how they would use CMP funds to improve CNA turnover by developing supportive work environments. After reviewing the applications, five nursing facilities were selected to participate (see Table 1). Each nursing facility was awarded up to \$50,000 in grant funding per year to develop a quality improvement project that included certain activities that could be tailored to meet its specific needs. Examples included new staff orientation, recognition and rewards, peer mentoring, and cultural awareness and skill proficiency training. To facilitate this process, the nursing facilities received technical assistance from both Virginia Medicaid and the Virginia Health Quality Center (VHQC), which is a federally designated quality improvement organization. As part of the program, the facilities agreed to report on their success in meeting the goals established in their proposals and to participate in an evaluation (Department of Medical Assistance Services [DMAS], 2012). Because *Virginia Gold* was intended to operate as a temporary pilot, it expired on August 31, 2011 (DMAS, 2010, 2011).

Table 1. Descriptive Characteristics of the *Virginia Gold* Nursing Facilities

Nursing Facility	# of Beds	% Medicaid Residents	CNA Staffing Level ^a	Annual CNA Turnover	Ownership Type	Total State/Federal Survey Deficiencies ^b	Overall Quality Rating ^c
Autumn Care (Portsmouth)	108 beds	75%	46 (37%)	75%	For-Profit	13	★★
Birmingham Green (Manassas)	180 beds	90%	67 (22%)	78%	Non-Profit	5	★★★★
Dogwood Village (Orange Co.)	164 beds	54%	83 (35%)	63%	Non-Profit	15	★★★★
Francis Marion Manor (Marion)	109 beds	67%	42 (60%)	65%	For-Profit	11	★
Trinity Mission (Charlottesville)	180 beds	70%	99 (45%)	54%	For-Profit	19	★★

^aReflects CNA staffing level as a percent of total nursing facility staffing level (in parentheses).

^bA deficiency represents a nursing facility's failure to meet requirements specified in state and/or federal nursing facility regulations. Deficiencies are identified during annual survey inspections. The average number of nursing facility deficiencies in Virginia during 2009 was 11.4, while the average nursing facility deficiencies in the nation was 10.8 (calculated using historical data provided electronically by the Centers for Medicare and Medicaid Services (CMS) on May 10, 2012).

^cThe overall quality rating "star" scores come from Nursing Home Compare, a web-based report card maintained by CMS containing information on all Medicare and/or Medicaid-certified nursing facilities in the nation. The star ratings range between one and five, with five stars representing the highest quality a nursing facility can achieve. The information presented in Table 1 is current as of 2009.

Source: Department of Medical Assistance Services (2010) (unless otherwise stated).

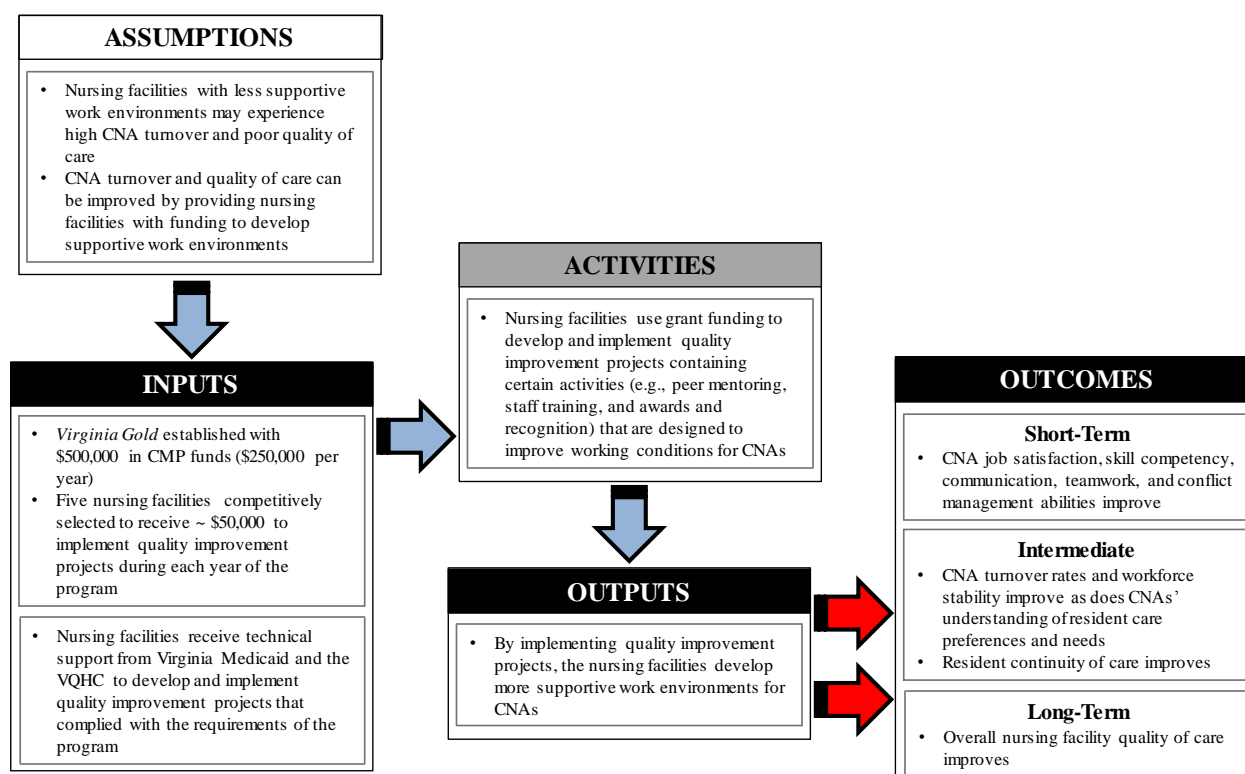
A logic model depicting *Virginia Gold's* underlying framework is presented in Figure 1. The model illustrates the path that the program followed to achieve its intended outcomes. A key feature of the model is the implementation of quality improvement projects by the nursing facilities containing activities associated with supportive work environments and improved quality. It was anticipated that by implementing these projects, certain changes would occur in the nursing facility work environments that, in turn, would influence staff behavior leading to the program's long-term outcome of improved quality of care.

To examine *Virginia Gold's* performance over time, two evaluations were conducted. The initial evaluation was performed at the end of the program's first year (i.e., September 1, 2009 to August 31, 2010) using focus groups with CNAs and residents. The findings from this evaluation suggested that *Virginia Gold* was improving care quality by developing supportive work environments (Craver & Burkett, 2012). The final evaluation presented in this manuscript covered both years of *Virginia Gold* (i.e., September 1, 2009 to August 31, 2011) as well as one year following its culmination (i.e., September 1, 2011 to August 31, 2012) using a similar qualitative design, and was guided by three study questions:

1. What were the strengths and limitations of *Virginia Gold*?
2. How did *Virginia Gold* affect CNA turnover and quality of care?
3. To what extent did the nursing facilities continue to implement the *Virginia Gold* quality improvement projects after program funding ended?

Addressing the first two questions allowed for an understanding of how the CNAs and residents viewed and experienced *Virginia Gold*, while concurrently gauging their perceptions of how the program influenced turnover and quality of care. Addressing the last question allowed for an assessment of how sustainable the *Virginia Gold* quality improvement projects were as well as an understanding of the nursing facilities' continued commitment to improving working conditions and quality after the program ended. The results of the final evaluation are presented in the present study.¹

Figure 1. *Virginia Gold* Quality Improvement Program Logic Model



Role of the Evaluators

Gerald Craver (Ph.D.) is a Senior Research Analyst in the Policy and Research Division at Virginia Medicaid. Dr. Craver was responsible for designing the evaluation, collecting, analyzing, and interpreting data, and preparing the final study. Amy Burkett (B.S.W.) is a Program Analyst in the Long-Term Care Division at Virginia Medicaid. Ms. Burkett coordinated and monitored *Virginia Gold* for the agency, and was responsible for assisting with data collection, analysis, and interpretation of the focus group and interview findings. Karen Kimsey (M.S.W.) is the Deputy Director of Complex Care and Services at Virginia Medicaid. She assisted with data analysis and was responsible for identifying the evaluation's policy implications.

Virginia Gold was evaluated at the request of management staff at Virginia Medicaid. Because *Virginia Gold* was a public program, the nursing facilities signed contracts indicating (in part) that they would participate in a public evaluation, and all individuals who

¹ The present study was adapted from a previous *Virginia Gold* evaluation (see http://www.dmas.virginia.gov/Content_atchs/ltc/vagold-rpt3.pdf). Material used in that evaluation was substantially revised and updated for this study.

participated were informed of this prior to data collection. Moreover, all individuals were informed that their identities would be protected (i.e., no information would be directly attributable to an individual) and that they could withdraw from participation at any time without fear of retribution.² In addition, all participants were given the opportunity to review and comment on transcripts and evaluation drafts. Following an internal review by Virginia Medicaid staff, the authors were given permission to submit the evaluation for publication.

Methodology

Following a critical realist paradigm (Maxwell, 2012), a qualitative case study design was employed to evaluate CNA and resident perceptions of *Virginia Gold* across the five nursing facilities.³ Focus groups were selected as the primary data collection method because they are one of the most widely used qualitative methods in applied policy research (Remler & Van Ryzin, 2011). Moreover, focus groups are an effective method to use when interviewing participants who are similar and when generating interaction among participants is deemed to yield the best results, which was the case in the present study (Creswell, 2013).

To validate participant perceptions regarding the program's effects on turnover and quality, annual CNA turnover and quality of care data were obtained from the nursing facilities and the Centers for Medicare and Medicaid Services (CMS) respectively. In addition, semi-structured telephone interviews with key nursing facility management staff were conducted one year following the program's culmination to gain a "post-intervention" perspective on the quality improvement projects. Additional information on the study methodology is provided in the subsections below.

Participants

To gain a better understanding of the program from the perspectives of the CNAs and residents, purposeful sampling was used to select participants for the focus groups. This was accomplished by providing management staff at the nursing facilities with certain criteria (e.g., length of time at the nursing facilities and familiarity with *Virginia Gold* activities) to select participants for both the CNA and resident focus groups. Upon arrival at the nursing facilities, the first two authors reviewed participants to ensure that they met the selection criteria. Using this process resulted in a sample of individuals who were both familiar with *Virginia Gold* and the inner workings of their respective nursing facilities.

The number of CNAs per focus group ranged from four to six (a total of 26 CNAs participated), while the number of residents per focus group ranged from five to seven (a total of 30 residents participated). Most focus group participants were female (96% of the CNAs and 70% of the residents were female). The average work experience of the CNAs at their respective facilities ranged between 5.2 and 16.5 years, and the average length of stay of the

² CNAs and residents signed consent/confidentiality agreements stating (in part) that they would not communicate or talk about information discussed during the course of the focus groups with anyone outside of the focus groups, while verbal consent was obtained from nursing facility management (i.e., management already knew of the evaluation because they signed the contracts with Virginia Medicaid).

³ Critical realism combines two perspectives often viewed as logically incompatible: ontological realism (or the belief that a real world exists independent of the perceptions and theories that people hold) and epistemological constructivism (or the view that peoples' understanding of the world is ultimately their own construction) (Maxwell, 2012). Using the logic model presented in Figure 1 to guide the study (e.g., developing interview questions within the parameters of *Virginia Gold* and selecting participants who were knowledgeable of the program) illustrates how critical realism was applied in the present study. Moreover, framing the research questions in terms of "real" phenomena (although not necessarily directly observable) further illustrates how this paradigm was applied.

residents ranged between 2.7 and 6.4 years. Nine CNAs (35%) worked as peer mentors and were directly involved with implementing *Virginia Gold* at their facilities. Based on the composition of the participant pool (e.g., adequate variability in length of time at the nursing facilities and exposure to *Virginia Gold*), the focus groups appeared sufficient to meet the objectives of the evaluation.

The number of management staff who participated in the follow-up telephone interviews ranged between one and two per nursing facility (a total of seven staff participated). These individuals were interviewed because they served as the official program contacts for their respective nursing facilities during *Virginia Gold*. Two participants were facility administrators, one was a personnel director, two were nursing directors, one was a charge nurse, and one was a compliance officer. With the exception of one management participant, all were female. In addition, the average work experience of the management participants at the *Virginia Gold* nursing facilities was 6.9 years.

Data Collection

The focus groups were convened in the nursing facilities during the spring and summer of 2011 using locations that provided maximum privacy (e.g., administrative offices and conference rooms). The lead author served as the focus group moderator, while the second author with nursing facility experience assisted by preparing field notes that documented the discussions. The CNAs and residents who participated received no incentives and all signed consent/confidentiality agreements, which was the only permission needed for the study.

The focus groups were conducted to obtain participants' thoughts regarding events that they deemed important about *Virginia Gold*. The CNAs and residents were asked five questions during the interviews (see Table 2). For both groups, the first question served as an "ice breaker" to get participants talking about *Virginia Gold*, while the remaining questions were used to collect evaluative information about the quality improvement projects. The focus groups covered events that occurred during both years of *Virginia Gold*. After each interview, the authors reviewed field notes and discussed group dynamics and findings. Each focus group lasted approximately 45 minutes and was audio recorded.

The semi-structured telephone interviews with management staff were conducted during the summer of 2012. Copies of the telephone interview questionnaire were provided to the participants prior to the interviews. Using the focus group protocol, the first question served as an ice breaker; while the remaining questions were used to collect information about the quality improvement projects following the culmination of *Virginia Gold* (see Table 2). Because the management interviews were not audio recorded, the participants reviewed the interview notes to ensure accuracy. The telephone interviews lasted approximately 45 minutes each.

In addition, annual CNA turnover (for September 1, 2008 to August 31, 2011) and quality of care (for January 1, 2008 to December 31, 2011) data were obtained from the nursing facilities and CMS during this time.⁴ For this study, turnover was defined as the ratio of the annual number of CNA terminations (including both voluntary and involuntary terminations) to the total number of CNAs employed per nursing facility, and quality of care was defined as the ratio of the annual number of residents with contractures, physical restraints, or pressure ulcers to the total number of residents in Medicare/Medicaid certified

⁴ The time periods for the CNA turnover and quality of care data differ because they were collected by different organizations for different purposes (e.g., the CNA turnover data were collected by the nursing facilities for *Virginia Gold*, while the quality of care data were collected by CMS as part of the nursing facilities' annual Medicare/Medicaid certification process).

beds per nursing facility.^{5,6} While a variety of quality indicators could have been used, these three measures were selected based on their availability in CMS' Online Survey, Certification, and Reporting (OSCAR) system and use by previous researchers (Bowblis, Meng, & Hyer, 2013; Castle & Engberg, 2005; Castle, Engberg, & Men, 2007).^{7,8}

Table 2. *Virginia Gold* Focus Group and Telephone Interview Questions

Certified Nursing Assistant Focus Group Interview Questions

1. What do you know about *Virginia Gold*?
2. What are the strengths of your facility's quality improvement projects? Why are these strengths?
3. What are the limitations of your facility's quality improvement projects? Why are these limitations?
4. How has your facility's quality improvement activities influenced staff retention and quality of care?

Nursing Facility Resident Focus Group Interview Questions

1. What do you know about *Virginia Gold*?
2. How would you describe the quality of care currently provided by CNAs at this facility?
3. What views do you have regarding your facility's quality improvement projects?
4. How do you think these projects influenced the quality of care that certified nursing assistants provide to residents?

Nursing Facility Management Telephone Interview Questions

1. To what extent is your facility continuing to implement its *Virginia Gold* quality improvement activities?
 2. How would you describe your nursing facility's experiences during *Virginia Gold*?
 3. If *Virginia Gold* was offered again, what would your nursing facility do differently in terms of its quality improvement projects?
 4. Based on your facility's experiences during *Virginia Gold*, what advice would you offer nursing facilities that are interested in improving working conditions and quality of care?
-

Data Analysis

The focus group recordings were transcribed verbatim by a professional transcriber, which resulted in 371 transcript pages (180 pages from the CNA recordings and 191 pages from the resident recordings). Following transcription, all personal identifiers were removed and a thematic content analysis was performed (Patton, 2002). In performing the content analysis, data were coded for common patterns and categories that reflected core experiences of participants across the nursing facilities during *Virginia Gold*. This was accomplished by the lead author who read the transcripts repeatedly to identify and code important text segments related to program activities (e.g., mentors help new CNAs adjust to the work environment) that corresponded to the interview questions (e.g., What are the strengths of your facility's quality improvement project?).⁹ The codes were revised several times based on the extent to which they corresponded to program activities and interview questions and

⁵ A composite indicator was employed due to the small number of physical restraint and pressure ulcer deficiencies per nursing facility.

⁶ Because actual deficiency counts can be misleading, rates were used to allow for comparisons relative to the total number of CNAs employed and the total number of residents in certified beds (Remler & Van Ryzin, 2011).

⁷ Contractures are abnormal stiffening/shortening of muscle tissue that can decrease range of motion at a joint. Physical restraints include wrist restraints, ankle restraints, vests, and/or geri-chairs. Pressure ulcers are sores that develop as a result of insufficient oxygen in skin tissue and lack of proper nutrition and regular turning of immobile residents. The presence of residents in nursing facilities with these deficiencies suggests poor care practices because they are generally considered preventable in most cases (Bowblis, Meng, & Hyer, 2013; Castle & Engberg, 2005).

⁸ An implication of critical realism in the present study was that the authors viewed the data collected as evidence of actual processes and phenomena (Maxwell, 2012).

⁹ Employing the strategy of using *a priori* organizational categories (subject to change) provides an example of how critical realism influenced data analysis (Maxwell, 2012).

then collated into an initial set of themes that reflected the content of important information contained throughout the entire dataset. Clusters of text were then cross-referenced to more than one theme, which resulted in the identification of a final group of themes related to both the CNA and resident focus groups. After completing this process, a thematic model depicting relationships among the themes was generated. The final analysis step involved selecting quotes that best illustrated the themes.

Analysis of the telephone interview notes followed a similar process. For example, the lead author transcribed the notes, which resulted in 24 typed pages, and then performed a content analysis to identify common patterns and categories. During the analysis of both the focus group transcripts and interview notes, the lead author consulted with the other team members and made periodic adjustments to the coding categories as needed.

To control for bias in the interpretation of the themes, intra-rater (consistency within one rater) and inter-rater (consistency among two raters) reliability was conducted using a sample of transcripts (Johnson & Christensen, 2008). This process involved calculating kappa (κ) statistics that measure percent agreement while correcting for chance. The analysis produced kappa values above the 0.60 threshold, suggesting an appropriate level of consistency (Acock, 2008). For example, the percent agreement for one set of transcripts that the lead author coded on two separate occasions was 90.0% ($\kappa=0.871$, $p=0.000$), while the percent agreement for two additional sets of transcripts that the lead author and an independent reviewer coded separately were 79.5% ($\kappa=0.766$, $p=0.000$) and 90.0% ($\kappa=0.872$, $p=0.000$). The percent agreement for a fourth set of transcripts that the lead author and a second team member coded separately was 86.8% ($\kappa=0.838$, $p=0.000$).¹⁰

Because *Virginia Gold* primarily sought to develop supportive work environments for CNAs, major themes from the CNA focus groups were used to evaluate the program, while findings from the resident focus groups were used to support the CNA themes where appropriate. Major themes from the management interviews were used to assess the nursing facilities' post-*Virginia Gold* quality improvement activities.

Finally, annual CNA turnover and quality of care data were analyzed using percent change calculations to identify important trends that occurred during the study period.

Results

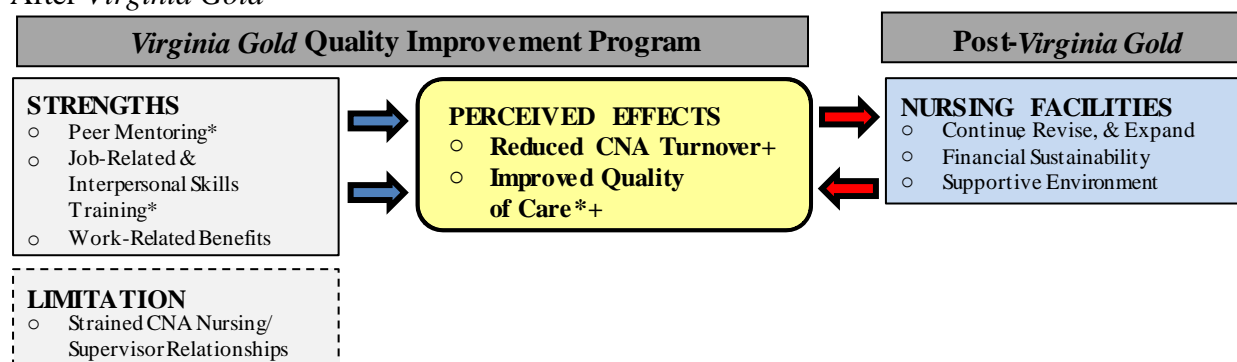
The content analysis identified nine major themes across the five *Virginia Gold* nursing facilities. Six themes illustrated experiences of the focus group participants during *Virginia Gold*, while three themes characterized the nursing facilities' post-program quality improvement activities. The themes, together with their respective definitions and number of associated text excerpts, are grouped around the interview topics and presented in Table 3. Additional information on the themes is presented in the subsections below, while a model of the themes is provided in Figure 2.

¹⁰ The coding scheme was revised after each comparison.

Table 3: Nine Themes Representing Participant Experiences During *Virginia Gold* and Nursing Facility Quality Improvement Activities After *Virginia Gold* (Number of Excerpts Representing Each Theme)

Theme	Definition	Number of Excerpts
Virginia Gold Quality Improvement Program Themes (September 2009 to August 2011) <i>CNA and Resident Focus Group Interviews</i>		
<u>Strengths</u>		
Peer Mentoring	Descriptions of the benefits of officially pairing experienced CNAs with newly hired CNAs for mentorship and training during initial orientation or to provide more experienced CNAs with guidance on improving skill performance	42
Job-Related & Interpersonal Skills Training	Descriptions of how job-related and interpersonal training improved CNA care-giving skills, interpersonal skills (i.e., problem solving, critical thinking, communication, understanding different personalities, and working in teams), and/or cultural awareness and sensitivity	24
Work-Related Benefits	Descriptions of how certain monetary or non-monetary benefits and/or awards made CNAs feel appreciated and/or motivated to perform their duties and responsibilities	17
<u>Limitation</u>		
Strained CNA Nursing/Supervisor Relationships	Descriptions of strained (or challenging) relationships among some CNAs and nursing/supervisor staff	22
<u>Perceived Effects</u>		
Improved Quality of Care	Facets of care that were perceived to improve after the nursing facilities implemented the <i>Virginia Gold</i> Quality Improvement Projects	54
Reduced CNA Turnover	Descriptions of how CNA turnover improved at the nursing facilities after the <i>Virginia Gold</i> Quality Improvement Projects were implemented	12
Post-Virginia Gold Themes (September 2011 to August 2012) <i>Management Staff Interviews</i>		
<u>Nursing Facilities</u>		
Continue, Revise, & Expand	Descriptions of how the nursing facilities were continuing, revising, and/or expanding the <i>Virginia Gold</i> Quality Improvement Projects after program funding ended	20
Supportive Environment	Perceptions among management staff of how continuing the <i>Virginia Gold</i> quality improvement projects improved the overall work environment at the nursing facilities	17
Financial Sustainability	Descriptions of how the nursing facilities were able to continue implementing the <i>Virginia Gold</i> Quality Improvement Projects because they did not require extensive staffing or financial resources	7

Figure 2: A Model Depicting Relationships among Themes Illustrating Participant Experiences During *Virginia Gold* and Nursing Facility Quality Improvement Activities After *Virginia Gold*



*Themes supported from resident focus group findings.

+Themes supported from the analysis of annual CNA turnover and nursing facility quality of care indicators.

Note: The red arrows indicate a reciprocal relationship between the themes in the Perceived Effects and Nursing Facilities' boxes (e.g., improved outcomes prompted the nursing facilities to continue the quality improvement projects after *Virginia Gold's* culmination, which resulted in further outcome improvements).

Strengths of the *Virginia Gold* Quality Improvement Projects

Peer mentoring

During the focus groups, the CNAs overwhelmingly identified *peer mentoring* as a strength of the *Virginia Gold* quality improvement projects, which is important because mentoring is considered an effective strategy for promoting supportive work environments and quality of care in nursing facilities (Hegeman, Hoskinson, Munro, Maiden, & Pillemer, 2007; PHI, 2003). The CNAs believed that peer mentoring improved the work environment by helping new CNAs adjust to working at the nursing facilities. For example, the CNAs indicated that,

mentoring is important because it makes the transition much easier for new employees. . .we teach them everything. . .about what floor they're working on and it just makes them feel more relaxed and more at home.

having a mentor when CNAs first come, they're not as nervous. They're going to learn better [and] faster. . .when I first came. . .I was just shoved in [and] it took me three times as long to learn the ropes.

[mentoring] was good. . .[because] I was nervous. . .but after. . .[working] with my mentor, I felt more confident. . .because this was my first CNA job ever and I think I'm doing okay now.

The residents also provided comments supporting *peer mentoring*. Examples included,

We have great mentors. . .working with new CNAs. . .those mentors are someone [they] can go to for input, to explain how the residents feel about things. . .and what [CNAs] are supposed to do.

of all the [activities], peer mentoring has been the most effective [because] the mentors are wonderful at explaining stuff [to new CNAs].

I've seen new CNAs with Jones [a mentor] whose training them...he's good...it [takes] three CNAs to do the job that he do by himself...as far as I'm concerned, peer mentors work pretty good.

Job-related and interpersonal skills training

Job-related and interpersonal skills training was also identified as a strength of *Virginia Gold*. This theme is important because inadequate training for CNAs can lead to job-related stress, undesirable work behaviors (e.g., incompetency, tardiness, and aggression), increased turnover, and poor quality of care (Bowers, Esmond, & Jacobson, 2003; Castle, Engberg, Anderson, & Men, 2007; Ejaz, Noelker, Menne, & Bagaka's, 2008; Sengupta, Harris-Kojetin, & Ejaz, 2010). According to the CNAs, the training they received during *Virginia Gold* helped them to improve their clinical skills as well as their ability to relate to coworkers and residents. For example, the CNAs reported that,

some of the things we had training on, we might have not known about or could have forgotten about...especially infection controls, that's one of the most important trainings they gave...they said hand washing really made a big difference.

We did role-playing where it was like a bad situation and what would you do...that helped me in situations I face every day...like [with] a combative resident or a coworker who has a problem.

In addition, one CNA said,

[Cultural] diversity training really helped me because sometimes when we talk to [people from] different groups, the words that we're saying mean something different to them and you learned that. . .sometimes you think they're saying something harsh to you but it's not, it's just a word they use and we use it [with] a different meaning. . .and we learned that. . .so we got together and no more bumping heads. . .everybody's doing pretty good now.

The residents also discussed instances where they observed CNAs receiving training during *Virginia Gold*. Overall, the residents thought the training was beneficial. For example, the residents reported that,

New CNAs spend more time in orientation now...[and]...the woman who trains CNAs does a wonderful job...she puts them in the rooms with the residents. You don't mind having the girls help you [after] she's finished training them."

"they put new girls [in training] with the most qualified CNAs, which is really good because [then] they learn the right way...they learn what each resident wants and that makes it really good [because] they're passing down good quality."

I think the [job-related skills] training is very good because...[new CNAs] are learning things...so when they start on their own...they'll know what to do.

Work-related benefits

In addition, *work-related benefits* was identified as a strength. Because the CNA profession is characterized by heavy workloads and low pay (Morgan & Konrad, 2008), enhancing benefits may offer an effective strategy for reducing CNA turnover in nursing facilities (Castle, Engberg, Anderson, & Men, 2007; Ejaz et al., 2008). The CNAs indicated that the benefits (e.g., monthly or annual recognition awards, gym memberships, and health insurance) received during *Virginia Gold* helped them feel more motivated about working at the nursing facilities. For example, the CNAs said,

The [employee] wellness [benefit] got a lot of people getting involved in exercising and looking out for their health. The awards gave us a chance to be enticed and look forward to something when we're working.

The facility does a pretty good job making us feel appreciated...they're always giving out something...it makes you feel good.

recognizing CNAs...helps a lot...[it]...makes you feel good to know that management knows you're here...and being appreciated because it used to be, you felt like I'm busting my butt and I'm not appreciated.

In addition, one CNA explained that,

[*Virginia Gold*] was good because. . .the [facility] administrator set up an [insurance benefit] with the local health department. . .the insurance we got here is so high. . .a lot of us didn't go to the doctor. . .[now] we. . .go to the health department, pay just \$25 [as a co-pay], and get everything checked. . .so that was a big help for us. . .I thought that was good.

The importance of this comment is underscored by the fact that while most CNAs have access to employer-sponsored health insurance, many do not participate due to the high costs (USDHHS, 2011). However, research suggests that the presence of affordable health insurance and other employee benefits is associated with improved CNA job satisfaction and turnover (Bishop et al., 2008; Rosen et al., 2011).

Limitation of the *Virginia Gold* Quality Improvement Projects

Strained CNA nursing/supervisor relationships

During the focus group interviews, the CNAs were asked to identify limitations of the *Virginia Gold* quality improvement projects. *Strained CNA nursing/supervisor relationships* was the only theme identified from these discussions. According to the participants, relationships between nurses, supervisors, and CNAs were not always cordial due to various issues such as lack of respect or understanding, inadequate communication, or incongruence of goals and values. The CNAs reported that,

you got some [nursing] managers that will walk by you, knock you down, and don't speak.

to improve the relationship between charge nurses and CNAs, I would say that's a weakness...It gives you a bad attitude if you can't get along with the charge nurse...that's very stressful.

I think our Director of Nursing (DON)...likes to put people down and make them feel like they're about an inch tall...especially the nurses and then the nurses get upset with us...there should be more positive input...pointing out things that people do right instead of always pointing out what people do wrong.

We had a training...the DON and Assistant DON really should have been [there]...I think some of them [nurse managers] should have went to that [as well]...because it was about communication and learning how to respect one another.

Perceived Effects of the *Virginia Gold* Quality Improvement Projects

Reduced CNA turnover and improved quality of care

Two themes emerged from the focus group discussions about the perceived outcome effects of *Virginia Gold*: *reduced CNA turnover* and *improved quality of care*. The themes are important for three reasons:

- a) *Virginia Gold* was implemented to achieve these outcomes,
- b) findings from a previous evaluation suggested that turnover and quality improved after *Virginia Gold* was implemented (Craver & Burkett, 2012), and
- c) research indicates that reducing CNA turnover can improve quality of care (Castle & Anderson, 2011; Castle & Engberg, 2005; Castle, Engberg, & Men, 2007).

The participants reported that CNA turnover declined during *Virginia Gold* due to the emphasis placed on developing supportive work environments. One CNA said,

Turnover has really improved [because] the training and everything enhanced [working conditions].

Others reported that,

I think making new CNAs feel comfortable, feel that they're needed, wanted, and appreciated...I think they're staying longer...the peer mentors are keeping a lot of new CNAs from doing things they shouldn't do.

I know we've had some that quit and go somewhere else and find out that it's not like it was here and come back.

Most residents were unable to discuss CNA turnover; however, one mentioned that,

Our resident-staff ratio is better now...When I first came here, my floor had three CNAs for 35 residents...now we have four CNAs...it makes the time that

[it takes] you [to] get attention more to your desire...[the CNAs] can take more time with the residents, [with] the makeup and positioning you in your chair, and when it's time to lie down in the afternoon, folks don't have to wait forever...with the increase in staff...everyone gets their naps...and meals go by faster...it's a whole lot better.

Comments were also received from CNAs supporting the link between improved turnover and working conditions. One CNA reported that,

it's like higher-ups are showing that they appreciate us...At one time it was like why are we here, they're not showing us anything...and now it's a whole lot better because they're really showing that [they appreciate us].

teamwork is better now. When I started, you'd think the workload was too hard, but now we all pull together. When I need help with a resident, I call and immediately someone comes...so the workload is easier.

The CNAs also indicated that quality of care improved during *Virginia Gold* due to the various training, equipment, and scheduling changes that were provided. For example, the CNAs reported that,

[Training] helps because the aides know when a call light comes on, it don't have to be your resident, it can be anybody's resident, you answer the light to see what they want.

we got walkie-talkies through *Virginia Gold*...it's a way to get [staff] off the [intercom]...residents don't want to hear that [the individual in] room 733 needs assistance.

I think consistent assignment [where the same CNAs care for the same residents each day] is better on the residents because...they're familiar with you...we can tell what's going on with the residents...we just pick up on things a little quicker than the nurses can.

Nursing facility residents are typically predisposed to adverse health outcomes if receiving suboptimal care because they are highly dependent on CNAs for much of their physical, mental, and social wellbeing (Castle & Engberg, 2005). The residents at the nursing facilities reported that care quality improved during *Virginia Gold*. One said,

[CNAs] are more sensitive to [our] needs...they listen more...sometimes these CNAs are all the family residents have...I think [CNAs are] getting more sympathy to that...that helps a lot.

I receive very good care from all the CNAs. They're capable and friendly and they don't get mad...they're just very calm and patient and do a lot of things for me...[it's] very good quality.

Similar comments from other residents included,

I'm totally dependent on [CNAs] for my appearance, everything except mobility, and you can look at me and tell that we don't lack much. You don't have to even ask them [for help] and that's the way it should be.

I've noticed the difference in CNAs...I think they focus more on [their] attitudes...I've seen a lot of change...I remember times when somebody might have a bad attitude...it might be hard to get them to do something. But now, they [are] quicker to do whatever you need, and most of them have a better attitude.

Table 4. CNA Turnover and Resident Contractures, Physical Restrain, and Pressure Ulcer Rates per Nursing Facility, 2008 and 2011^a

Nursing Facility ^a	2008	2011	% Change ^b	% Annualized Change ^b
CNA Turnover Rate Per Nursing Facility				
Autumn Care	57.8	31.3	-45.8	-20.4
Birmingham Green ^c	52.8	81.0	53.4	14.3
Dogwood Village	51.8	49.6	-4.2	-1.4
Francis Marion Manor ^c	39.6	41.7	5.3	1.7
Trinity Mission	61.5	32.7	-46.8	-21.1
Quality of Care (Contractures, Physical Restraint, and Pressure Ulcer) Rate Per Nursing Facility				
Autumn Care ^d	28.3	35.1	24.0	7.2
Birmingham Green	49.1	41.2	-16.1	-5.8
Dogwood Village	51.2	20.9	-59.2	-29.9
Francis Marion Manor ^c	33.7	32.6	-3.3	-1.7
Trinity Mission	74.3	69.0	-7.1	-2.5

Note: For this analysis, 2008 served as the pre-program measurement period while 2011 served as the post-program measurement period.

^aBirmingham Green and Francis Marion Manor implemented consistent assignment during *Virginia Gold's* second year, while Trinity Mission implemented consistent assignment during the program's first year.

^bA negative or decreasing percent change indicates that the measure improved between 2008 and 2011.

^cThe increase in CNA turnover experienced by Birmingham Green may be due, in part, to a high number of terminations that occurred following a change in the facility's scheduling policy during the second year of *Virginia Gold*. The increase in turnover for Francis Marion may also be due to personnel policies and to poor local economic conditions.

^dThe increase in the contracture, physical restraint, and pressure ulcer rate for Autumn Care may be due to the nursing facility's high turnover among its directors of nursing (DON) during *Virginia Gold* (the facility had three DONs during the program). According to the facility administrator, "Just having a good DON can make all the difference because the DON position is critical to implementing quality improvement activities."

^e2009 OSCAR data are used for Francis Marion Manor because 2008 data were not available in OSCAR.

Source: *Virginia Gold* Nursing Facilities (CNA turnover rates) and the Centers for Medicare and Medicaid Services (contractures, physical restraint, and pressure ulcer rates).

Because the participants reported that CNA turnover and quality of care improved during *Virginia Gold*, quantitative data were analyzed to verify the credibility of these findings (Patton, 2002). The results tended to support participants' perceptions about the effects of

Virginia Gold (see Table 4). In particular, the analysis revealed that annual CNA turnover improved over time in three of the five nursing facilities, while quality of care (as measured by contractures, physical restraint, and pressure ulcer rates) improved in four of the five facilities.¹¹ Interestingly, the three facilities that implemented consistent assignment, which is considered a quality of care “best practice” (Castle, 2013), experienced a reduction in the rate of residents with care deficiencies during the study period.

Post-*Virginia Gold* Quality Improvement Activities

Continue, revise, and expand

The first theme identified through the follow-up interviews with management staff during the summer of 2012 was *continue, revise, and expand*. This theme reflects the fact that all five nursing facilities continued the *Virginia Gold* quality improvement projects without state funding one year following the program’s culmination on August 31, 2011 (see Table 5). According to the managers, continuing the *Virginia Gold* projects improved working conditions, CNA turnover, and quality of care at the nursing facilities. One manager mentioned that the *Virginia Gold* project “opened our eyes to things we can do that don’t cost much” to improve conditions for CNAs and residents, while another said continuing the project was improving turnover by “keeping CNAs interested in working at the nursing facility” through special incentives, such as health insurance, appreciation awards, and monthly off-site training.

In addition, the managers reported that they revised, and even expanded, quality improvement project activities based on lessons learned during *Virginia Gold*. Some managers discontinued activities that they were unable to fully implement during the program, such as residential buffet-style dining, or could not sustain afterwards, such as staff reimbursements for gym memberships. Other managers expanded activities to enhance effectiveness. One manager revised peer mentoring by offering bonuses to CNAs for mentoring new staff who remained employed for at least 6 months following orientation, while another expanded this activity to include nurses based on positive feedback from CNAs about their peer mentoring experiences during *Virginia Gold*. Overall, the managers believed that the ability to revise and/or expand the quality improvement projects over time was important for ensuring the projects’ long-term success.

Table 5. Examples of Continued, Discontinued, and Revised *Virginia Gold* Nursing Facility Quality Improvement Project Activities

Continued Activities	Discontinued Activities	Revised Activities
<ul style="list-style-type: none"> • Awards and recognition for CNAs (e.g., awards for years of service, CNA of the month, on-the-spot activities, and peer mentor of the year) • Cultural diversity and sensitivity training to foster communication and teamwork 	<ul style="list-style-type: none"> • Reimbursements for employee wellness activities and exercise equipment purchases • Walkie-talkies to facilitate two-way communication among CNAs in the nursing facility • <i>Crucial Conversations</i>® training for CNAs that emphasized 	<ul style="list-style-type: none"> • Implemented Vocera® (a wireless, voice-activated, hands-free communication system) to improve quality of care by allowing CNAs and other staff to communicate throughout the nursing facility and with staff at local hospitals

¹¹ To test the hypothesis that there was a decreasing gradient in turnover and quality of care deficiencies across time using 2008, 2009, 2010, and 2011 data, Cochran-Armitage trend tests were used. The results support the information presented in Table 4. For example, using an alpha level of 0.10, statistically significant decreasing trends were detected in turnover for Autumn Care ($p=0.057$), Birmingham Green ($p=0.029$), and Trinity Mission ($p=0.005$). Statistically significant decreasing trends in quality deficiencies were also detected for Birmingham Green ($p=0.054$) and Dogwood Village ($p=0.000$), while the trend for Autumn Care approached statistical significance ($p=0.110$).

<p>among CNAs</p> <ul style="list-style-type: none"> • Consistent assignment in which the same CNAs care for the same residents almost every time they are on duty • Off-site skill training for CNAs in various resident care areas, including activities of daily living, pain control, and skin care • Peer mentoring in which experienced CNAs are paired with newly hired CNAs for retention support and hands-on training • Interview panels in which CNAs participate in interviewing CNA applicants • Care planning in which CNAs participate in the development of care plans for nursing facility residents • Discounted medical insurance benefits for CNAs (e.g., physician office visits and medications) through a local community health clinic 	<p>strategies for resolving employee disagreements, improving communications, and fostering teamwork</p> <ul style="list-style-type: none"> • Buffet-style dining for nursing facility residents • Periodic CNA luncheons with the facility administrator to promote open communication • CNA/staff visits to five-star nursing facilities to examine workplace support and quality improvement activities 	<ul style="list-style-type: none"> • Promoted communication through “group huddles” to allow staff to exchange information about residents during shift changes • Revised employee assistance program by providing counseling services on a case-by-case basis in lieu of monthly contracts • Revised peer mentoring by offering bonuses to CNA mentors if their mentees remained employed at the nursing facility for at least 6 months following initial orientation • Promoted open communication with CNAs by offering free snacks in the nursing facility administrator’s office • Implemented a “scavenger hunt” to allow CNAs to learn about the facility by identifying certain staff and resources during orientation • Purchased a CPR dummy with 25 health deficiencies to train CNAs on caring for nursing facility residents (prizes are given to staff who identify all 25 deficiencies)
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Financial sustainability

As part of the interviews, the managers were asked to estimate how much it cost their facilities to continue the quality improvement projects during the post-*Virginia Gold* period (i.e., September 1, 2011 to August 31, 2012). *Financial sustainability* was identified as a theme from these discussions because the managers used terms such as “minimal,” “not prohibitive,” and “not much” to describe the costs. The managers reported that the low costs of the quality improvement activities allowed the nursing facilities to continue the projects by incorporating them into their existing operating budgets. Depending on the quality improvement activities implemented, the managers’ cost estimates ranged from \$1,200 up to approximately \$20,000 annually. For example, one manager reported that it only cost about \$1,200 to continue the quality improvement project “because [her] facility selected low-cost financially sustainable activities,” such as consistent assignment and resident care planning. However, another manager estimated that the annual cost of her facility’s quality improvement project was around \$15,000 because it consisted of awards and recognition, counseling assistance, health insurance, and off-site training activities. Finally, managers at two additional nursing facilities estimated that the annual cost of their quality improvement projects, which consisted of activities such as cultural diversity training, “brown bag” educational seminars, peer mentoring, new staff orientation, and a wireless communication system, was roughly \$20,000. Previous research indicates that the cost of replacing a CNA is approximately \$2,200 per individual (Castle & Engberg, 2006); therefore, continuing the

quality improvement projects may be a worthwhile investment for the nursing facilities because this study suggests that turnover declined during *Virginia Gold*.

Supportive environment

The last theme identified through the interviews was *supportive environment*, which reflects statements from managers indicating that continuing the *Virginia Gold* quality improvement projects promoted the development of supportive work environments. For example, one manager said continuing the quality improvement project improved conditions by “keeping things new for CNAs,” while demonstrating that management was serious about “making meaningful improvements” to the work environment. Another said continuing the quality improvement project was “empowering” CNAs because they were using their training experiences to instruct nurses on electronic medical records, develop a nurse peer mentoring curriculum, and provide better care to residents with dementia. Still, another manager reported that continuing the project was helping CNAs “feel like they are part of a team” by involving them in facility-level activities, such as interviewing CNA applicants or redesigning resident shower rooms.

Discussion

This study evaluated *Virginia Gold* across all five nursing facilities from the perspectives of the CNAs and residents who experienced it as well as the managers who continued the quality improvement projects after the program ended. Overall, the study found that CNA turnover decreased, while quality of care improved at the nursing facilities during *Virginia Gold*. Additional information on the findings and policy implications of the evaluation, as well as the study’s limitations, are provided in the subsections that follow.

Evaluation Findings

Three study questions were developed to guide the final evaluation of *Virginia Gold*. The first question was, “What were the strengths and limitations of *Virginia Gold*?” This question was developed to identify which quality improvement activities the CNAs and residents viewed as strengths and which activities they viewed as limitations. The evaluation found that *peer mentoring, job-related and interpersonal skills training, and work-related benefits* were strengths of *Virginia Gold*. This finding is important for two reasons: (a) the strengths suggest that *Virginia Gold* was focused on addressing relevant issues because they are related to CNA job satisfaction, turnover intentions, actual turnover, and care quality (Choi & Johantgen, 2012; Noelker, Ejaz, Menne, & Bagaka’s, 2009; Rosen et al., 2011; Sengupta, Harris-Kojetin, & Ejaz, 2010) and (b) the strengths are identified in the quality improvement literature as integral to successful efforts to improve nursing facility work environments and quality of care (Dill, Morgan, & Konrad, 2010; Foy White-Chu, Graves, Godfrey, Bonner, & Sloane, 2009; Hegeman et al., 2007; Koren, 2010).

The evaluation also found that *strained CNA nursing/supervisor relationships* was the only limitation of *Virginia Gold*. This finding emerged because the CNAs reported that they did not always have good, working relationships with the nurses or their supervisors during the program. Two reasons may account for this. First, nursing educational programs do not typically include instruction in management preparation (Choi & Johantgen, 2012). As a result, the nurse supervisors may not have known how to relate effectively to the CNAs because they lacked adequate leadership skills and competencies. Because supportive supervision is associated with CNA job satisfaction and turnover (Bishop, Squillace,

Meagher, Anderson, & Wiener, 2009; Castle, 2005), nursing facilities undergoing quality improvement should provide nurses with training to develop supervisory skills as part of these activities (McGuire, Houser, Jarrar, Moy, & Wall, 2003).¹² Second, *Virginia Gold* was only focused on improving working conditions for CNAs. However, excluding nurses may have disrupted their relationships with CNAs because they lacked the knowledge needed to fully support the quality improvement projects. While some facilities expanded the *Virginia Gold* projects to include nurses after the program ended, quality improvement in general should apply to all staff in nursing facilities because they are important stakeholders whose buy-in and support is needed to sustain the interventions over time (Scalzi, Evans, Barstow, Hostvedt, 2006; Tyler & Parker, 2011).

The second study question was, “How did *Virginia Gold* influence CNA turnover and quality of care?” The CNAs and residents reported during the first evaluation that turnover and quality improved after *Virginia Gold* was implemented (Craver & Burkett, 2012); therefore, this question was intended to determine if these groups still held this belief at the end of the program. The final evaluation found that both groups continued to maintain that these outcomes improved after *Virginia Gold* was implemented, which suggests that the program was successful. The credibility of this finding is bolstered by the results of a quantitative analysis that found that CNA turnover declined and quality of care improved in most facilities between 2008 and 2011 as well as by the managers who reported improvement in these areas during the post-program period. Moreover, a second CNA turnover analysis (results not shown) found that turnover decreased in 4 facilities between 2008 and 2012.^{13,14} When considering this information in total, the perceived effects of *Virginia Gold* may be justified.

Finally, the third question was, “To what extent did the nursing facilities continue to implement the *Virginia Gold* quality improvement projects after program funding ended?” Because *Virginia Gold* only operated for 2 years, the last question sought to determine the status of the quality improvement projects following *Virginia Gold*. By addressing this question, the study found that all five nursing facilities implemented financially sustainable projects that benefited residents and were valued by both management and staff, because they were continued without state funding following the program’s culmination. The study also found that the nursing facilities developed projects that could be revised, which is an important feature for ensuring the continued development of person-centered care and work practices over time (Foy White-Chu et al., 2009; Koren, 2010; Tyler & Parker, 2011). In addition, the study found that the projects promoted supportive work environments after *Virginia Gold* ended, which is another important feature for promoting person-centered practices in nursing facilities (Bishop et al., 2008; Choi, Flynn, & Aiken, 2012; Dill, Morgan, & Konrad, 2010; Flynn, Liang, Dickson, & Aiken, 2010; Morgan & Konrad, 2008).

Policy Implications of *Virginia Gold*

The results of this study have both policy and practice implications (DMAS, 2012). For instance, the study provides evidence that working conditions and quality of care improved at the nursing facilities after *Virginia Gold* was implemented. While the results

¹² One nursing facility contracted with a local community college to develop a supervisory training program for nurses during the first year of *Virginia Gold*; however, this activity was discontinued during the program’s second year.

¹³ The analysis did not include 2012 quality of care data because it was not available from CMS at the time of this study.

¹⁴ Using the Cochran-Armitage test, statistically significant decreasing trends were detected for Dogwood Village ($p=0.073$) and Trinity Mission ($p=0.000$).

may not necessarily generalize to all nursing facilities in the nation, they do suggest that the program may offer an effective model for improving conditions in some facilities. The *Virginia Gold* model is based on a competitive grant process that funds certain quality improvement activities (e.g., peer mentoring, training, employee benefits, and awards), while requiring participating nursing facilities to meet specific reporting (e.g., quarterly financial and progress reports) and oversight (e.g., adherence to program and funding stipulations and participation in an evaluation) commitments. Because the model is grant funded, implementation may be difficult because it is contingent upon securing one or more funding sources. Nevertheless, undertaking this process may be worthwhile because the demand for nursing facility and other long-term care services and supports is expected to increase in the coming decades due to the aging of the U.S. population (Bowblis, Meng, & Hyer, 2013), while the number of available entry-level workers in these areas is expected to decline because the industry's traditional labor pool is shrinking (Stone & Dawson, 2008).

The evaluation also provides evidence that change can occur in nursing facilities through relatively simple, cost-effective activities, such as peer mentoring or consistent assignment (DMAS, 2012). *Virginia Gold* was originally planned to be financed using \$250,000 (or approximately \$50,000 per facility) in annual grant funds. However, it only cost the nursing facilities \$136,469 (or roughly \$27,293 per facility) to implement their quality improvement projects during the first year and \$132,058 (or about \$26,412 per facility) during the second year (Craver & Burkett, 2012; DMAS, 2012). Since the cost of continuing the projects after *Virginia Gold* was reduced to roughly \$15,000 to \$20,000 per facility, financing similar quality improvement projects may represent good public policy. Nursing facilities interested in improving working conditions and care quality should review *Virginia Gold* to determine if there are certain activities that can be adopted to achieve these goals. Finally, while funding is important for quality improvement interventions, so too are dedicated leadership and staff support. The *Virginia Gold* Quality Improvement Program suggests that meaningful changes can occur as long as management and staff value quality improvement and are dedicated to its long-term success (DMAS, 2012).

Study Limitations

As with all research, this study has several limitations that should be considered when interpreting the results. First, the findings are based on the perceptions of a small number of CNAs, residents, and managers from each nursing facility, and as a result, only provide insights into activities that occurred during and after *Virginia Gold* using information from these participants.¹⁵ Second, information collected from the focus group participants and management staff may be biased if they felt compelled to portray the program positively. Third, the study did not account for differences between the nursing facilities (such as the effects of local economic conditions and case mix on CNA turnover and quality of care) or control for quality improvement initiatives that may have been implemented prior to *Virginia Gold*.^{16,17} Fourth, the evaluation may be subject to facilitator bias if comments by the authors influenced participant responses. Fifth, while the study suggests that *Virginia Gold* improved

¹⁵ This limitation provides another example of how critical realism influenced the authors: no selection strategy guarantees that researchers will actually select participants that allow them to best answer the research questions and achieve their goals (Maxwell, 2012).

¹⁶ Some research suggests that economic downturns (e.g., the recession that began in late 2007 in the United States) may influence turnover by prompting staff to remain with their current employers until conditions improve (Brewer, Kovner, Yingrengreung, & Djukic, 2012).

¹⁷ Case mix refers to the differences that exist among residents in a nursing facility in terms of their physical and mental conditions, and the resources that are used to care for them.

conditions in the nursing facilities, causation should not necessarily be implied from these findings. Additional research is needed to demonstrate that a causal association exists between *Virginia Gold* and the changes that are reported in this study (DMAS, 2012).

Conclusion

The *Virginia Gold* Quality Improvement Program was implemented to improve and expand the quality of care provided to nursing facility residents in Virginia by providing five facilities with grant funding to implement certain quality improvement activities. While there is no simple solution to improving CNA turnover and quality of care in nursing facilities, information collected during this study suggests that *Virginia Gold* improved care quality by developing supportive work environments for CNAs. This information is important for two reasons:

- a) it suggests that *Virginia Gold* may be an effective model for improving working conditions and quality of care in nursing facilities and
- b) it indicates that meaningful change for staff and residents can occur in nursing facilities through relatively simple, cost-effective activities.

Based on this information, the financing of quality improvement activities in nursing facilities may represent a good investment for states and other interested organizations.

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