



## Pathway to better patient care and nurse workforce outcomes in home care

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### ABSTRACT

**Background:** Unlike the Magnet Recognition Program, the newer Pathway to Excellence Program designed to improve work environments in a broader range of organizations has not yet been the focus of substantial research.

**Purpose:** The purpose of the study was to examine the association of Pathway to Excellence Program Standards with better patient care quality and workforce outcomes in home care.

**Method:** Cross-sectional survey of registered nurses yielded informants from 871 home care agencies in the United States. Variables representing each of the 12 Pathway Standards were entered into logistic regression models to determine associations with better patient care and nurse workforce outcomes.

**Discussion:** All Pathway Standards are strongly and significantly associated with better patient care and better workforce outcomes. Home care agencies with better-rated professional work environments consistently had better patient care and nurse workforce outcomes.

**Conclusions:** This study validates the Pathway to Excellence Standards as important to patient care quality and nursing workforce outcomes in home care.

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Although there is substantial research suggesting the attainment and maintenance of Magnet Recognition is an intervention associated with better work environments and better patient and nurse outcomes in hospitals, similar research on the newer Pathway to Excellence Program is lacking, especially related to nonhospital settings. The objective of this study was to validate whether Pathway to Excellence Program Standards are associated with better patient care quality and workforce outcomes in home care. If so, the Pathway

Program may become, as in the case of Magnet Recognition, a blueprint for an intervention to improve home care organizations as well as a means to recognize those with nursing excellence (Aiken, 2005; Clement, 2012).

Over three decades of research has established that the Magnet Recognition program is successful in identifying institutions with nursing excellence and that the Magnet Journey itself is an intervention to develop nursing excellence (Aiken, Smith, & Lake, 1994; Kutney-Lee et al., 2015; McHugh et al., 2013). A

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significant body of research also demonstrates the association of Magnet designation with improved hospital outcomes for patients and nurses (Friese, Xia, Ghaferi, Birkmeyer, & Banerjee, 2015; McHugh, Aiken, Eckenhoff, & Burns, 2016; McHugh et al., 2013; Witkoski-Stimpfel, Sloane, McHugh, & Aiken, 2016). Magnet has been very successful for hospitals around the globe, but few nonhospital health care organizations have taken the journey (Aiken, Buchan, Ball, & Rafferty, 2008; Aiken and Poghosyan, 2009; Walker and Aguilera, 2013).

Launched in 2009, the Pathway to Excellence Program requires health care organizations to meet 12 Standards for workplace excellence (Figure 1). Each Pathway Standard consists of detailed criteria that indicate the presence of good nurse work environments (American Nurses Credentialing Center [ANCC], 2016). The Pathway Program recognizes health care organizations in all settings that create positive work environments where nurses can excel in their practice and patient care. The Pathway to Excellence Program framework “provides a valuable infrastructure for transforming cultures in any settings where nurses work, regardless of the location and size (Pabico & Cadmus, 2016).” The Pathway Program is meant to enable a wider range of organizations, such as home care organizations, to qualify for Recognition and to be helped on the journey of improved work environments and better care outcomes.

There is an absence of evidence at present to determine whether the Pathway Program can identify organizations with excellent nursing and whether the Standards that are the core of the Program have promise as an intervention to move smaller organizations toward nursing excellence. Currently, no home care agency is recognized by either Pathway or Magnet (ANCC, 2016). Although previous research suggests that home care nurses value good professional work environments (Flynn, 2007; Mensik, 2007), only two studies

have documented the relationship between the work environment in home care and patient outcomes (Jarrín, Flynn, Lake, & Aiken, 2014; Tullai-McGuinness, Riggs, & Farag, 2011). No studies have shown a relationship between the work environment in home care and patient-care quality in terms of nursing care that is provided. Additionally, there is no empirical research on whether Pathway Standards are related to good patient care and outcomes in a home care organization context.

## Methods

This study utilizes an observational, cross-sectional study design to examine the association between the Pathway Standards and (a) indicators of patient care quality and (b) nursing workforce outcomes in home care. Nurse survey data, collected by the Center for Health Outcomes and Policy Research at the University of Pennsylvania, contain information on the nurse work environment, nurse satisfaction and burnout, nurse demographics, and patient care quality indicators (Aiken et al., 2010). The term “nurses” in this study refers exclusively to registered nurses (RNs) working in home care who responded to a mailed survey in 2006 (Aiken et al., 2010).

## Measurement of Pathway Standards

Following a review of the literature, questions on the nurse survey were mapped to each Standard, with most items drawn from items on the Practice Environment Scale of the Nursing Work Index (Lake, 2007) and ratings of patient safety environment from the Agency for Healthcare Research and Quality survey on patient safety culture (Blegen, Gearhart, O'Brien, Sehgal, & Alldredge, 2009). Graduate and undergraduate research assistants independently

1. Nurses control the practice of nursing
2. The work environment is safe and healthy
3. Systems are in place to address patient care and practice concerns
4. Orientation prepares nurses for the work environment
5. The Chief Nursing Officer (CNO) is qualified & participates in all levels of the organization
6. Professional development is provided and utilized
7. Equitable compensation is provided
8. Nurses are recognized for achievements
9. A balanced lifestyle is encouraged
10. Collaborative interdisciplinary relationships are valued and supported
11. Nurse managers are competent and accountable
12. A quality program and evidence-based practice are utilized

**Figure 1 – ANCC Pathway to Excellence® Standards.**

mapped items to the Standards, referring to the expanded definitions and elements of performance in the ANCC manual (ANCC, 2016). Authors with home care work experience jointly made final decisions regarding mapping of items to Standards. Each item was scored on a scale from 1 to 4: 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, or 4 = *strongly agree*. The internal consistency of each set of Pathway Standard items was evaluated using Cronbach's alpha statistic. Higher mean Pathway Standard composite scores indicate better nurse work environments.

Nurses' individual ratings of Pathway Standards were coded 1 (lowest quartile), 2 (middle quartiles), and 3 (top quartile), and the logistic regression models used to estimate outcomes impose linear constraints on their effects. Thus, the odds ratios (ORs) indicate both the difference between the top and middle quartiles and between the middle and lowest quartiles of hospitals, with respect to Standards. The difference between the top and bottom quartile would equal the OR squared (OR<sup>2</sup>). All models were adjusted to account for clustering of nurses within agencies, as well as differences in nurse age, nurse education, state, and employment in a Medicare certified agency.

### Sample

Nurse survey data were derived from large random samples of RNs in California, New Jersey, and Pennsylvania who were mailed surveys. The RN licensing boards in each state provided the sampling frame for the nurse survey, and the overall response rate was 39%. A follow-up nonresponse survey that achieved a 94% response rate revealed no response bias between respondents and nonrespondents (Smith, 2008). The nurses provided the name of their employer (home care agency) and information on patient care quality and characteristics of their professional work environment; details of the nurse survey are described elsewhere (Aiken et al., 2010; Jarrin et al., 2014). This study was completed under University of Pennsylvania IRB approval #176400.

### Patient Care Quality and Workforce Outcomes

#### Patient Care Quality Outcomes

Patient care outcomes included nurse-reported quality of patient transitions across care settings and nurses' ability to complete essential nursing care. For example, nurses were asked how often their patients "fall between the cracks" when transferred between settings. Quality of patient care included nurse-reported essential but missed care due to resource constraints including a lack of time to: (a) comfort/talk with patients and their family, (b) teach patients and caregivers about their health, including self-management of their illness and proper use of medications, and (c) coordinate care, including communication with other health team members and community supports and services.

### Nursing Workforce Outcomes

Nurse outcomes included job dissatisfaction, burnout, and intent to leave their job during the next year. Burnout was measured using the nine-item emotional exhaustion subscale of the Maslach Burnout Inventory (Maslach and Jackson, 1981). Scores of 27 or above were considered indicative of high burnout, consistent with published norms for health professionals in the Maslach Burnout Inventory manual (Maslach and Jackson, 1981). Job dissatisfaction was measured on a four-point scale and dichotomized so that nurses who reported being either "a little" or "very" dissatisfied were characterized as "dissatisfied". Intent to leave employer was equated with nurses who answered "yes" when asked if they intended to leave their current employer within 1 year. Descriptive statistics were used to summarize home care nurses' demographic characteristics including level of education.

## Findings

### Home Care Nurse Sample

A total of 3,486 registered nurses responded who identified their primary work setting as home care and

**Table 1 – Nurse Characteristics (N = 3,486)**

Characteristics	n	%
Age (mean, SD)	50.6	9.7
Male	108	3.2
Race (n = 3,295)		
White	2,947	89.5
Asian/Pacific Islander	153	4.6
Black/African-American	108	3.3
American Indian	5	0.2
Mixed race	31	0.9
Other race	51	1.5
Hispanic (overlaps with race) (n = 3,318)	90	2.7
Highest level of nursing education (n = 3,145)		
RN diploma	819	26.0
Associate degree	944	30.0
Baccalaureate degree	1,139	36.2
Master degree	241	7.7
Doctoral degree	2	0.1
State		
California	990	28.4
New Jersey	1,182	33.9
Pennsylvania	1,314	37.7
Reported employment in Medicare-certified HHA	2,176	63.6
In proprietary (for-profit) Medicare-certified agency	691	31.8
In nonprofit Medicare-certified agency	1,441	66.2
In government-owned Medicare-certified agency	44	2.0

Note. HHA, home health agency.

**Table 2 – Mean Composite Scores and Internal Consistency of Each Pathway Standard Variable**

Standards	Items	Mean (SD)	Cronbach's Alpha
1. Nurses control the practice of nursing	<ul style="list-style-type: none"> <li>■ Nursing controls its own practice</li> <li>■ Enough time and opportunity to discuss patient care problems with other nurses</li> <li>■ Opportunity for staff nurses to participate in policy decisions</li> <li>■ Not being placed in a position of having to do things that are against my nursing judgment</li> <li>■ Staff nurses are involved in the internal governance of the hospital/organization (e.g., practice and policy committees)</li> </ul>	2.88 (0.66)	0.79
2. The work environment is safe and healthy	<ul style="list-style-type: none"> <li>■ A work environment that is pleasant, attractive, and comfortable</li> <li>■ Most days I feel my workload is reasonable</li> <li>■ Administration that listens and responds to employee concerns</li> </ul>	2.98 (0.74)	0.73
3. Systems are in place to address patient care and practice concerns	<ul style="list-style-type: none"> <li>■ Freedom to make important patient care and work decisions</li> <li>■ Enough staff to get work done</li> <li>■ Enough registered nurses on staff to provide quality patient care</li> </ul>	2.89 (0.76)	0.79
4. Orientation prepares nurses for the work environment	<ul style="list-style-type: none"> <li>■ A good orientation program for newly employed nurses</li> <li>■ A preceptor program for newly hired RNs</li> <li>■ Working with experienced nurses who know the organization system</li> <li>■ Working with nurses who are clinically competent</li> <li>■ The opportunity for staff nurses to consult with clinical nurse specialists or expert nurse clinicians</li> </ul>	3.04 (0.65)	0.79
5. The CNO is qualified and participates in all levels of the organization	<ul style="list-style-type: none"> <li>■ A chief nursing officer who is highly visible and accessible to staff</li> <li>■ A chief nursing officer is equal in power and authority to other top-level hospital/organization executives</li> </ul>	2.98 (0.84)	0.65
6. Professional development is provided and utilized	<ul style="list-style-type: none"> <li>■ Active staff development or continuing education programs for nurses</li> <li>■ Opportunities for advancement</li> <li>■ Career development/clinical ladder opportunity</li> </ul>	2.64 (0.80)	0.83
7. Equitable compensation is provided	<ul style="list-style-type: none"> <li>■ A satisfactory salary</li> </ul>	2.77 (0.92)	N/A
8. Nurses are recognized for achievements	<ul style="list-style-type: none"> <li>■ Praise and recognition for a job well done</li> <li>■ The contributions that nurses make to patient care are publicly acknowledged</li> </ul>	2.90 (0.83)	0.73
9. A balanced lifestyle is encouraged	<ul style="list-style-type: none"> <li>■ Flexible or modified work schedules are available</li> <li>■ Staff nurses actively participate in developing their own work schedules</li> </ul>	3.23 (0.77)	0.69
10. Collaborative interdisciplinary relationships are valued and supported	<ul style="list-style-type: none"> <li>■ Physicians and nurses have good working relationships</li> <li>■ A lot of team work between nurses and physicians</li> <li>■ Collaboration between nurses and physicians</li> <li>■ Physicians hold nurses in high esteem</li> </ul>	2.98 (0.64)	0.87

(continued on next page)

**Table 2 – (Continued)**

Standards	Items	Mean (SD)	Cronbach's Alpha
11. Nurse managers are competent and accountable	<ul style="list-style-type: none"> <li>■ A nurse manager who is a good manager and leader</li> <li>■ Nurse managers consult with staff on daily problems and procedures</li> <li>■ A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician</li> </ul>	3.07 (0.80)	0.83
12. A quality program and evidence-based practice are utilized	<ul style="list-style-type: none"> <li>■ An active quality assurance programs</li> <li>■ Support for new and innovative ideas about patient care</li> <li>■ Staff nurses are involved in the internal governance of the hospital/organization (e.g., practice and policy committees)</li> <li>■ Staff nurses have the opportunity to serve on hospital/organization and nursing committees</li> </ul>	2.86 (0.72)	0.81

Source: The 12 Standards are from American Nurses Credentialing Center (ANCC) Pathway to Excellence Program. The items are mostly drawn from the PES-NWI (Lake, 2007) and correspond with detailed descriptions specified by ANCC as evidence that the Standards are met (ANCC, 2012).

Note. CNO, Chief Nursing Officer; RN, registered nurse; PES-NWI, Practice Environment Scale of the Nursing Work Index.

also identified their employer enabling the aggregation of nurses by home care agency. The mean age was nearly 51 years old ( $SD = 9.69$ ), the majority of respondents were female, and 44% held a baccalaureate degree. Additional descriptive characteristics of the nurse sample are displayed in Table 1.

### Home Care Agency Sample

Completed surveys were received from nurses in 871 different home care agencies or distinct branches of large agencies. The home care agencies in our sample included 151 hospice specialty programs, 31 pediatric specialty agencies, and 18 infusion specialty agencies. Over half of all the agencies ( $n = 462$ ) were Medicare certified, and of these nearly half were private, for-profit agencies ( $n = 207$ ). Compared with the national profile of the home health and hospice industry for the same time period, our sample contains a larger fraction of not-for-profit agencies (29% vs. 18%) (Park-Lee & Decker, 2010).

### Reliability of Measures

In our sample, Cronbach's alphas for the Pathway Standards subscales ranged from 0.65 to 0.87. Taking into consideration that many of the Standards were measured with three items or less, Cronbach's alpha coefficients above 0.60 may be interpreted as acceptable (Loewenthal, 2004). The lowest alphas obtained were for the Standards "Equitable Compensation Is Provided" ( $\alpha = 0.65$ ) and "A Balanced Lifestyle Is Encouraged" ( $\alpha = 0.69$ ). As a whole, the Pathway Standards exhibited a good level of reliability and Cronbach's alphas of the overall scale are presented in Table 2. Additionally, for our sample of home care nurses the Cronbach's alpha of the measure of burnout

(nine-item emotional exhaustion subscale of the Maslach Burnout Inventory) was very strong ( $\alpha = 0.92$ ).

### Patient Care Quality

As shown in Table 3, half of the 12 Pathway to Excellence Standards are strongly and significantly associated with better patient care in terms of safe care transitions and nurses' completion of necessary nursing care including comforting, talking with, and teaching patients and families, as well as completing care coordination ( $p \leq .001$ ). Of the remaining Standards, five were strongly and significantly associated with at least half of the patient care quality outcomes. The only Standard that was not strongly associated with patient care outcomes was "Equitable compensation is provided," which was measured with a single item. The results for the first two Pathway Standards are discussed here as examples, with full results in Table 3.

Nurses who worked in home care agencies rated most highly for giving nurses' control over the practice of nursing (top quartile) were less than half as likely ( $OR = 0.66^2 = 0.44$ ) to report patients falling between cracks in the system during transitions, such as when a patient is discharged from hospital to home. Similarly, nurses who rated their control over the practice of nursing the best (top quartile) were less than half as likely as those in the bottom quartile, to report that they lacked time to talk with, teach patients, and coordinate their care.

A similarly strong predictor of patient care outcomes among the indicators of Pathway Standards was nurses' ratings of their work environment as safe and healthy. Nurses who reported the safest and healthiest work environments (top quartile) were only two-fifths as likely ( $0.62^2 = 0.38$ ) to report unsafe care transitions as nurses in the least safe and healthy (bottom

**Table 3 – Odds Ratios Indicating the Relationship Between Pathway Standards and Patient Care Quality and Workforce Outcomes in Home Care**

Standards	Odds Ratios Indicating the Relationship Between Pathway Standards and Outcomes						
	Unsafe Care Transitions	Lack Time to Talk With Patients	Lack Time to Teach Patients	Lack Time to Coordinate Care	Dissatisfied With Job	High Emotional Burnout	Plans to Leave Employer
1. Nurses control the practice of nursing	0.66***	0.66***	0.68***	0.63***	0.56***	0.66***	0.57***
2. The work environment is safe and healthy	0.62***	0.65***	0.66***	0.58***	0.55***	0.51***	0.60***
3. Systems are in place to address patient care and practice concerns	0.63***	0.61***	0.67***	0.64***	0.54***	0.54***	0.64***
4. Orientation prepares nurses for the work environment	0.66***	0.74***	0.77***	0.79***	0.62***	0.70***	0.57***
5. The CNO is qualified and participates in all levels of the organization	0.68***	0.73***	0.77***	0.70***	0.54***	0.65***	0.62***
6. Professional development is provided and utilized	0.84**	0.85*	0.75***	0.84*	0.67***	0.83***	0.57***
7. Equitable compensation is provided	0.82**	0.88*	0.85*	0.95	0.68***	0.86**	0.67***
8. Nurses are recognized for achievements	0.65***	0.72***	0.78***	0.70***	0.53***	0.63***	0.55***
9. A balanced lifestyle is encouraged	0.71***	0.62***	0.75***	0.64***	0.67***	0.59***	0.79***
10. Collaborative interdisciplinary relationships are valued and supported	0.80***	0.89	0.90	0.72***	0.78***	0.80***	0.75***
11. Nurse managers are competent and accountable	0.70***	0.84*	0.82**	0.73	0.58***	0.71***	0.60***
12. A quality program and evidence-based practice are utilized	0.80***	0.85*	0.81**	0.79***	0.63***	0.78***	0.62***

Note. CNO, Chief Nursing Officer.

Logistic regression models are adjusted for state, nurse age, if nurse BSN prepared, and if agency is Medicare certified. Outcomes are significant at \* =  $p \leq .05$ , \*\* =  $p \leq .01$ , \*\*\* =  $p \leq .001$ . All models account for clustering of nurses within home care agencies.

quartile) work environments. The ORs in the table also indicate that nurses who reported the safest and healthiest work environments (top quartile) were less than half as likely ( $0.65^2 = 0.42$ ) as nurses in the least safe and healthy (bottom quartile) work environments to say they lacked time to coordinate patients' care, less than half as likely ( $0.66^2 = 0.44$ ) to report they lacked time to comfort and talk with patients and families, and were one-third as likely ( $0.58^2 = 0.34$ ) to report they lacked time to teach patients and families. Table 3 also shows that the differences in outcomes are substantial not only between the best and the worst environments but also between the best and the middle categories.

#### Nurse Workforce Outcomes

All 12 Pathway to Excellence Standards are strongly and significantly associated with better self-reported outcomes for nurses in terms of higher job satisfaction, lower burnout, and greater intent to remain with their employer ( $p < .001$ ). Again, we describe here in detail the results for the first two Pathway Standards as examples, with full results in Table 3.

Compared with nurses who rated their control over the practice of nursing the lowest (bottom quartile), the nurses who reported the most control over the practice of nursing (top quartile) were one-third time as likely ( $OR = 0.56^2 = 0.31$ ) to be dissatisfied with their job. Similarly, nurses who rated their control over the

practice of nursing the highest (top quartile) were one-third as likely ( $OR = 0.57^2 = 0.32$ ) to indicate that they intended to leave their employer as nurses who reported the least control over the practice of nursing (bottom quartile).

The strongest predictor of nurse job satisfaction, burnout, and intent to leave their job was nurses' ratings of their work environment as safe and healthy. Here too, by squaring the coefficients in Table 3, we find that nurses who reported the least safe and healthy work environments (bottom quartile) were 36% as likely to intend to leave their employers compared with nurses who rated their work environments as the most safe and healthy (top quartile). Nurses who reported the most safe and healthy work environments (top quartile) were 30% as likely to be dissatisfied with their job than nurses in poor (bottom quartile) work environments. Nurses' reports of emotional exhaustion (burnout) had a similar pattern, with nurses who worked in agencies rated as the least safe and healthy (bottom quartile) being one-fourth as likely to report burnout compared with nurses in the best (top quartile) work environments.

### Limitations

Limitations of our study include its cross-sectional design, which limits causal inferences. As home care agencies begin to undertake the Pathway journey and are designated, research will be needed to confirm a causal relationship. Additionally, the subscales representing each Standard were developed retrospectively and should be refined prior to use for other purposes.

### Discussion

Our findings are a validation of association between the Pathway to Excellence Program's core Standards with better patient care quality and workforce outcomes in home care. All 12 Pathway Standards are associated with nurse workforce outcomes including job satisfaction, burnout, and intent to leave current job. The only Pathway Standard not associated with patient care was nurse compensation, and it was important to nurse outcomes. The Pathway Standards all relate to creating supportive professional work environments. Thus our study adds to the evidence base that good work environments created by health agencies are very important to providing high quality of home care and retaining home care nurses.

Our findings suggest that the Pathway to Nursing Excellence Program will likely be successful in identifying home health agencies with excellent nursing care, as has been shown to be true for the Magnet Recognition program. Also, as is true for Magnet, the application process for Pathway recognition requiring evidence that the core Standards are met may be an intervention that helps improve work environments and outcomes of

home care agencies. Our results suggest that even home care agencies with average work environments, as well as those with poor work environments, could potentially provide more effective care and be more successful in retaining nurses if they make a priority of achieving the Pathway Standards. Thus, the pursuit of Pathway credentialing holds promise for recognizing nursing excellence in home care organizations and as a blueprint for moving more home care organizations into the highest levels of patient care excellence.

### Conclusions

The 30-year history of the Magnet Recognition Program and later the Pathway to Excellence Program has focused on creating health care environments that attract and retain well-qualified nurses who are supported to provide high-quality patient care. Although these programs have focused to date mostly on hospitals, our findings suggest that achieving work environment excellence in home care agencies may yield comparable benefits for patient care and nurse retention. This study provides the best evidence to date that patient care is better when home care agencies create positive practice environments. The Pathway Standards provide a clear and relevant path for home care agencies to achieve patient care excellence while maximally retaining an experienced and hard to replace nursing workforce.

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